CULTURAL RESOURCES SURVEY OF THE ESSEX FARMS TRACT, CHARLESTON COUNTY, SOUTH CAROLINA

CHICORA RESEARCH CONTRIBUTION 421

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ABSTRACT

This study reports on an intensive cultural resources survey of a 325 acre tract located in Charleston County, South Carolina, just west of the city of Charleston. The work was conducted to assist Gordon Geer and Centex Homes comply with Section 106 of the National Historic Preservation Act and the regulations codified in 36CFR800.

The Essex Farms Tract, which borders SC 61 to the north and a phosphate mine and saltwater marsh to the south, will be developed for single family occupancy. To the west the Bradham and Bolton Tracts, part of the same complex of properties, have recently been surveyed by Chicora Foundation. The surrounding area is being quickly developed with neighborhoods and commercial structures.

The proposed undertaking will require the clearing of the tract, followed by construction of various infrastructure elements, such as roads, stormwater drainage, and utilities. Individual lot construction will involve grading, additional utility construction, and subsequent building of structures. These activities have the potential to affect archaeological and historical sites and this survey was conducted to identify and assess archaeological and historical sites that may be in the project tract. For this study an area of potential effect (APE) 0.5 mile from the proposed tract was assumed.

An investigation of the archaeological site files at the South Carolina Institute of Archaeology and Anthropology identified eight previously recorded sites (38CH694, 38CH975-977, 38CH1177, 38CH1272, 38CH1678, and 38CH2018) in the APE. Site 38CH694 is a late nineteenth to early twentieth century domestic site. Site 38CH975 is a late eighteenth to twentieth century site. Site 38CH976 is a sparse nineteenth century scatter. Site 38CH977 is a nineteenth century scatter. These four sites were all recommended not eligible for the National Register. Site 38CH1177 is an eighteenth to nineteenth century and Woodland pottery scatter. Due to possible intact features, the site was recommended potentially eligible for the National Register. Sites 38CH1272 and 38CH1678 are Civil War Fortifications (Long Branch Creek Overflow Battery and Battery Magwood, respectively). Both sites are on the National Register of Historic Places. The final site, 38CH2018, is a Middle to Late Woodland pottery scatter that was recorded on the Bradham Tract. This site is recommended not eligible for the National Register.

The maps at the S.C. Department of Archives and History were also consulted to see if any National Register of Historic Places sites were in the vicinity of the project area. Sites 38CH1272 and 38CH1678, the Civil War Batteries, were identified, but no other structures were found. A county-wide architectural survey was performed in 1992, so these records are thought to be complete (Fick 1992).

The archaeological survey of the tract incorporated shovel testing at 100-foot intervals on transects which were placed at 100-foot intervals. All shovel test fill was screened through 3-inch mesh and the shovel tests were backfilled at the completion of the study. A total of 726 shovel tests were excavated along 64 transect lines.

As a result of these investigations site 38CH2023 was identified. The site is a sparse nineteenth to twentieth century scatter that is recommended not eligible for the National Register because of its inability to address significant research questions and lack of integrity.

Finally, it is possible that archaeological remains may be encountered in the project area during clearing activities. Crews should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the State Historic Preservation Office or to Chicora Foundation (the process of dealing with late discoveries is discussed in 36CFR800.13(b)(3)). No construction should take place in the vicinity of these late discoveries until they have been examined by an archaeologist and, if necessary, have been processed according to 36CFR800.13(b)(3).

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INTRODUCTION

This investigation was conducted by Dr. Michael Trinkley of Chicora Foundation, Inc. for Mr. Gordon Geer of Centex Homes in North Charleston, South Carolina. The work was conducted to assist Centex Homes with Section 106 of the National Historic Preservation Act and the regulations codified in 36CFR800.

The project site consists of a 325 acre tract proposed to be used for residential development west of the city of Charleston, South Carolina (Figure 1). The tract is bordered by SC 61 to the north, a phosphate mining area and saltwater marsh to the south, and the Bolton Tract, a previously surveyed parcel, to the west (Figure 2).

The tract consists of slightly undulating topography with areas of fresh water and salt water wetlands. Also found in the area are forests of mixed pines and hardwoods and areas of only hardwoods. About 53 acres of the tract is a phosphate mined area. The surrounding area is being quickly developed.

The tract is intended for a residential development. This work will require the construction of utilities such as electrical, sewer, and water lines as well as an expanded road system when development begins. There will likely be increased short-term noise, traffic, and dust levels associated with the project. These activities have the potential to damage or otherwise affect any cultural resources that may be present on the tract.

This study, however, does not consider any future secondary impact of the project, including increased or expanded development of this portion of Charleston County.

We provided a proposal for the survey of three Centex properties on February 20, 2004. The proposal was accepted, however, Centex preferred to have each property surveyed separately with a different report written for each. One report was produced for the Bradham and Bolton Tracts (Southerland et al. 2004). This report represents the third and final tract of the complex.

Initial background investigations incorporated a review of the site files at the South Carolina Institute of Archaeology and Anthropology. As a result of that work eight previously recorded sites (38CH694, 38CH975-977, 38CH1177, 38CH1272, 38CH1678, and 38CH2018) were identified in the 0.5 mile APE. Site 38CH694 is a late nineteenth to early twentieth century domestic site. Site 38CH975 is a late eighteenth to twentieth century site. Site 38CH976 is a sparse nineteenth century scatter. Site 38CH977 is a nineteenth century scatter. These four sites were all recommended not eligible for the National Register. Site 38CH1177 is an eighteenth to nineteenth century and Woodland pottery scatter. Due to possible intact features, the site was recommended potentially eligible for the National Register. Sites 38CH1272 and 38CH1678 are Civil War Fortifications (Long Branch Creek Overflow Battery and Battery Magwood, respectively). Both sites are on the National Register of Historic Places. The final site, 38CH2018, is a Middle to Late Woodland pottery scatter that was recorded on the Bradham Tract. This site is recommended not eligible for the National Register.

Examination of architectural sites at the South Carolina Department of Archives and History identified the two Battery sites (38CH1272 and 38CH1678), but no other sites were recorded. No sites were found in the 1992 county-wide architectural survey (Fick 1992).

Archival and historical research included a title search of the properties using the resources

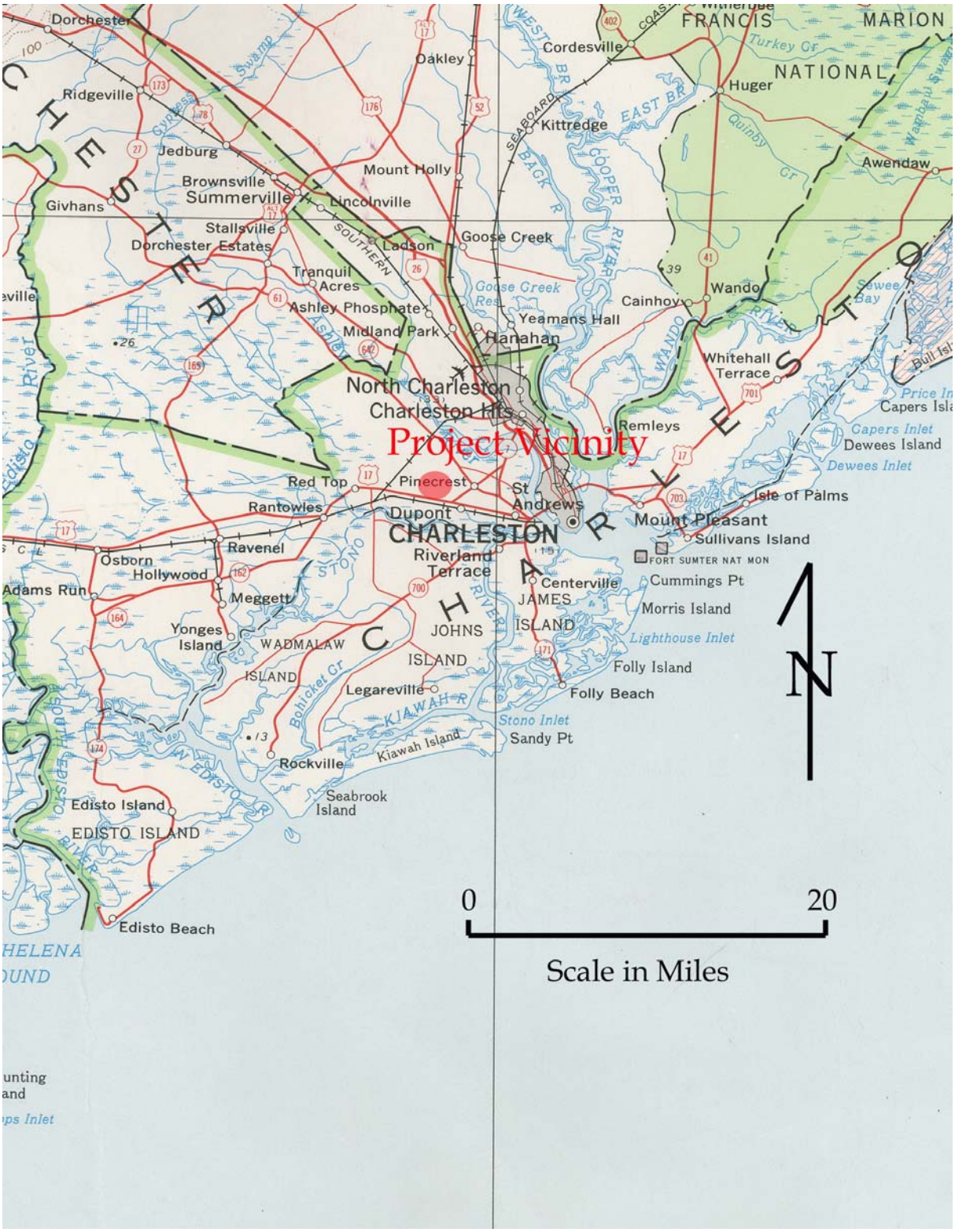

Figure 1. Project vicinity in Charleston County (basemap is USGS South Carolina 1:500,000).

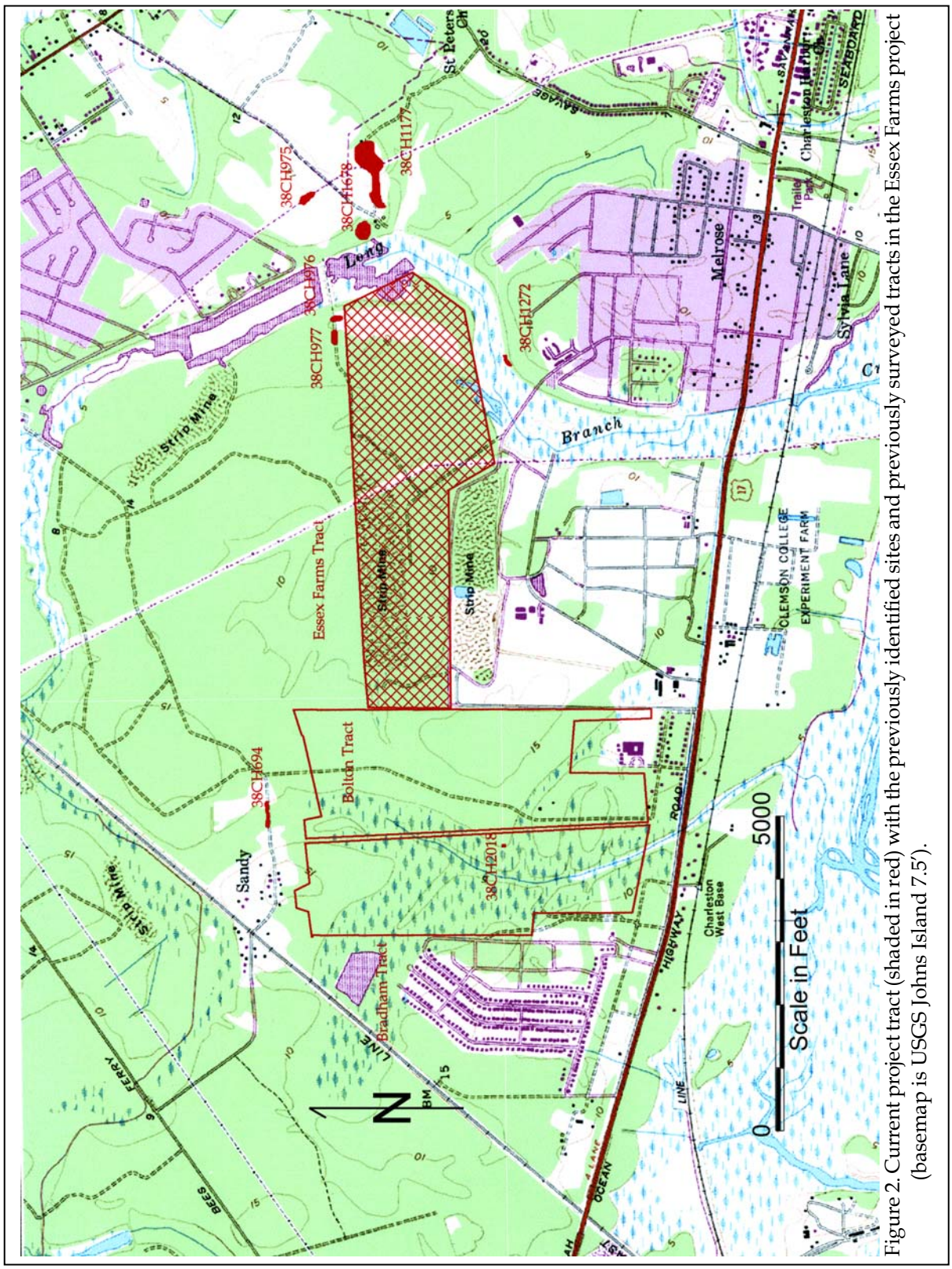

Figure 2. Current project tract (shaded in red) with the previously identified sites and previously surveyed tracts in the Essex Farms project (basemap is USGS Johns Island 7.5').

of the Charleston County RMC, South Carolina Historical Society, and other institutions.

of the Charleston County RMC, South Carolina Historical Society, and other institutions. Additional information was compiled concerning the history of the various tracts making up the study parcels.

The archaeological survey for the Essex Farms Tract was conducted from November 3-10, 2004, by Ms. Nicole Southerland, Mr. Tom Covington, and Ms. Virginia Livingston under the direction of Dr. Michael Trinkley. Historical research was conducted by Ms. Sarah Fick.

This report details the investigation of the project area undertaken by Chicora Foundation and the results of that investigation.

NATURAL ENVIRONMENT

Physiography

Charleston County is located in the lower Atlantic Coastal Plain of South Carolina and is bounded to the east by the Atlantic Ocean and a series of marsh, barrier, and sea islands (Mathews et al. 1980:133). Elevations in the County range from sea level to about 70 feet above mean sea level (AMSL).

Seven major drainages are found in Charleston County. Four of these, the Wando, Ashley, Stono, and North Edisto, are dominated by tidal flows and are saline. The Wando forms a portion of the County's interior boundary northeast of Charleston, while the Ashley flows west of the peninsular city of Charleston. The three with significant freshwater flow are the Santee, which forms the northern boundary of the County; the South Edisto, which forms the southern boundary; and the Cooper, which bisects the County.

Because of the low topography, many broad, low gradient interior drains are present as either extensions of the tidal rivers or as flooded bays and swales. Extensions included Hobcaw, Rathall, Foster, Horlbeck, Boone Hall, Wagner, Toomer, and Allston creeks that flow west, north, or northeast into the Wando.

Elevations in the project area range from about 5 to 15 feet AMSL. In general, the topography slopes toward the wetlands that are located throughout the area.

Geology and Soils

Coastal Plain geological formations are unconsolidated sedimentary deposits of very recent age (Pleistocene and Holocene) lying unconformably on ancient crystalline rocks (Cooke 1936; Miller 1971:74). The Pleistocene sediments are organized into topographically distinct, but lithologically similar, geomorphic units, or terraces, parallel to the coast. The sites are located in an area identified by Cooke (1936) as part of the Pamlico terrace, which includes the land between the recent shore and an abandoned shore line about 25 feet AMSL. Cooke (1936:7) notes that evidence of ancient beaches and swales can still be seen in the Pamlico formation and this likely contributed to the ridge and trough topography present in some areas.

Figure 3. View of wetlands in the tract (found in phosphate mine trough).

Within the coastal zone the soils are Holocene and Pleistocene in age and were formed from materials that were deposited during the various stages of coastal submergence. The formation of soils is affected by this parent material (primarily sands and clays), the temperate climate, the various soil organisms, topography, and time.

The mainland soils are Pleistocene in age and tend to have more distinct horizon development and diversity than the younger soils of the sea and barrier islands. Sandy to loamy soils predominate in the level to gently sloping mainland areas. The island soils are less diverse and less well developed, frequently lacking a well-defined B horizon. Organic matter is low and the soils tend to be acidic. The Holocene deposits typical of barrier islands and found as a fringe on some sea islands, consist almost entirely of quartz sand, which exhibits little organic matter. Tidal marsh soils are Holocene in age and consist of fine sands, clay, and organic matter deposited over older Pleistocene sands. The soils are frequently covered by up to 2 feet of saltwater during high tides. Historically, marsh soils have been used as compost or fertilizer for a variety of crops, including cotton (Hammond 1884:510) and Allston mentions that the sandy soil of the coastal region "bears well the admixture of salt and marsh mud with the compost" (Allston 1854:13).

As the colony was being settled and promoted, the soils were described simply. John Norris told his readers in 1712:

> the Soil is generally Sandy, but of differeing Colours, under which, Two or Three Foot Deep, is Clay of which good Bricks are made (Greene 1989:89).

In the last quarter of the eighteenth century, William DeBrahm's *Report* provides little more information, stating only that, "the Land near the Sea Coast is in general of a very sandy Soil" and noting that this soil "along the Coast has as yet not been able to invite the industrious to reap Benefit of its Capacity" (DeVorsey 1971:72).

By the nineteenth century, Robert Mills in his *Statistics of South Carolina* provides slightly more information concerning the current understanding of the soils:

> Lands here [in Charleston District] may be viewed under six divisions in respect to quality; 1st, Tide swamp, 2d, Inland swamp; 3d, High river swamp (or low ground commonly called second low grounds); 4th, Salt Marsh; 5th, Oak and hickory high lands; and 6th, Pine barren. The tide and inland swamps are peculiarly adapted to the culture of rice and hemp; they are very valuable, and will frequently sell for $100 an acre; in some instances for more. The high river swamps are well calculated for raising hemp, indigo, corn, and cotton; and where secured from freshets, are equally valuable with the tide lands. The oak and hickory highlands are well suited for corn and provisions, also for indigo and cotton. The value of these may be stated at from ten to twenty dollars per acre. The pine barrens are not worth more than one dollar an acre (Mills 1972:442-443[1826]).

Even the detail of this account, however, fails to provide a very clear picture of the soils in Christ Church where the sands were low and commonly interspersed with galls or small inland swamps. Here the property, even the supposedly good hickory and oak lands, was poorly drained.

A number of period accounts discuss the importance of soil drainage. Seabrook, for example, explained in 1848:

> Subsoil so close as to be

> impervious to water; so that the excess of the rains of winter cannot sink. Nor can it flow off, because of the level surface . . . . The land thereby is kept thoroughly water-soaked until late in the spring. The long continued wetness is favorable only to growth of coarse and sour grasses and broom sedge . . . acid and antiseptic qualities of the soil . . . sponge-like power to absorb and retain water . . . is barren, (for useful crops) from two causes – excessive wetness and great acidity. The remedies required are also two; and neither alone will be of the least useful effect, with the other also. Draining must remove the wetness – calcareous manures the acidity (Seabrook 1848:37).

A somewhat similar account would still be provided by Hammond in the postbellum:

> Drainage . . . has of necessity always been practiced to some extent. The remarkably high beds on which cotton is planted here, being from 18 inches to 2 feet high, subserve this purpose. The best planters have long had open drains through their fields. These were generally made by running two furrows with a plow and afterward hauling out the loose dirt with a hoe, thus leaving an open ditch, if it be so termed, a foot or more in depth (Hammond 1884:509).

The number of drainages still found offers mute testimony to the problems planters encountered on these soils and their efforts to make the land productive. These problems have also been briefly mentioned by Hilliard, who comments that soils in the region were, "seldom well enough drained for most crops" (Hilliard 1984:11).

Five soil types are found in the survey area including one well-drained soil, Wagram loamy fine sand, one moderately well drained soil, Hockley loamy fine sand, one somewhat poorly drained soil, Edisto loamy fine sand, and two poorly drained soils, Yonges loamy fine sand and Wadmalaw fine sandy loam.

The survey area is dominated by the poorly drained soils. Yonges and Wadmalaw soils are found most often. Yonges soils have an Ap horizon of dark grayish brown (10YR4/2) loamy fine sand to a depth of 0.9 foot over a light brownish gray (10YR6/2) loamy fine sand. These soils have seasonal high water tables within 1-2 feet of the surface. Wadmalaw soils have an A horizon of black (10YR2/1) fine sandy loam to a depth of 0.4 foot over a very dark gray (10YR3/1) fine sandy loam to a depth of 0.8 foot. The seasonal high water table for these soils is 0-1 foot below the surface.

Edisto soils, found only in a small area in the eastern portion of the tract, have an Ap horizon of very dark grayish brown (10YR3/2) loamy fine sand to a depth of 0.9 foot over a pale brown (10YR6/3) loamy fine sand to just over a foot.

Hockley soils are found in the eastern portion of the survey tract. Hockley soils have an Ap horizon of dark grayish brown (10YR4/2) loamy fine sand to 0.8 foot in depth over a light yellowish brown (10YR6/4) loamy fine sand to just over 1.0 foot in depth. The soil is better drained and has seasonal high water tables between 2 and 5 feet below the surface.

The one well drained soil, Wagram loamy fine sands, has an A horizon of very dark grayish brown (10YR3/2) loamy fine sand to a depth of 0.7 foot over a dark brown (10YR4/3) loamy fine sand to a depth of 1.3 feet.

Figure 4. View of mixed pines and hardwoods typical of the tract.

Climate

The weather was all important in Colonial society, affecting the crops that in turn affected trade and wealth. Just as importantly, the Carolina climate affected, usually for the worse, the planter's health. Greene notes that:

> the prospects of obtaining wealth with ease . . . meant little in a menacing environment, and both Nairne and Norris took pains to minimize the unpleasant and dangerous features that already had combined to give South Carolina an ambiguous reputation. They had to admit that throughout the summer temperatures were "indeed troublesome to Strangers." But they contended that settlers had quickly found satisfactory remedies in the form of "open airy Rooms, Arbours and Summer-houses" constructed in shady groves and frequent cool baths and insisted the discomfitures of the summers were more than offset by the agreeableness of the rest of the seasons. [They also suggested] that ill-health was largely limited to newcomers before they were seasoned to the climate, to people who insisted in living in low marshy ground, and to those who were excessive and careless in their eating, drinking, and personal habits. "If temperate," they asserted, those who lived on "dry healthy Land," were "generally very healthful" (Greene 1989:16).

While making for good public relations, the reality was far different. Roy Merrens and George Terry (1989) found that in Christ Church Parish, 86% of all those whose births and deaths are recorded in the parish register, died before the age of twenty. Equally frightening statistics have been compiled by John Duffy (1952), who found that the average European could expect to live to the age of about 30 in South Carolina during the first quarter of the eighteenth century. Yellow fever, smallpox, diphtheria, scarlet fever, malaria, dysentery all were at home in Carolina. Using the Society for the Propagation of the Gospel (SPG) records, Duffy found that from 1700 to 1750, 38% of the missionaries either died or were compelled to resign because of serious illness within the first five years of their arrival. Within 10 years of their arrival, 52% had died or resigned because of their health. After 15 years in the colony, the combined death toll and resignations from sickness reached 68% -- two out of every three missionaries.

African Americans fared no better. Frank Klingberg (1941:154), using SPG records found that in a single four month period over 400 slaves died of "distemper." William Dusinberre, exploring rice plantations along the Carolina coast, entitled one of his chapters "The Charnel House" – a reference to the extraordinary morbidity of African Americans on rice plantations. He reports that on some plantations the child mortality rate (to age sixteen) was a horrific 90% (Dusinberre 1996:51), while the probable average for rice plantations was around 60% (Dusinberre 1996:239). Cotton plantations – that were probably most numerous in Christ Church – were healthier, but even there fully a third of all slave children did not live to see their sixteenth birthday.

Beginning in the last third of the eighteenth century the life expectancy began to increase. Merrens and Terry suggest that this was the result of the occupants beginning to understand the cause of malaria:

> During the middle of the eighteenth century South Carolinian's perception of the wholesome environment of the lowcountry swamps began to change. People no longer preferred these areas on the score of health as a place of summer residence. Instead, residents began to view the lowcountry as fostering both mosquitoes and death (Merrens and Terry 1989:547).

Perhaps most importantly it is about this time when we also see the planter move his residence from the swamp edge (where he could easily oversee both slaves and crops) to higher, sandier locations. Slave settlements, too, appear to move to somewhat drier and healthier environs.

The Charleston climate, with its moderate winters and long, hot summers, affected not only the health of the populations and the crops grown, it also influenced the politics of Carolina. The summer climate of Carolina, while causing the Barbadian immigrants to feel that they had resettled in the tropics, also convinced most that slavery was inevitable. Not only was slavery the accepted order to the planters from Barbados, Jamaica, Antique, and St. Kitts, it seemed impossible for white Englishmen to work in the torrid heat – making African American slaves that much more essential (Donnan 1928). Even in the Christ Church parish, which in 1720 had a very low settlement compared to other parishes, slaves, comprised 85.6% of the populations.

Floristics

The survey area exhibits three major ecosystems: the maritime forest ecosystem, which consists of the upland forest areas, the palustrine ecosystem, which consists of essentially fresh water, non-tidal wetlands, and the riverine ecosystem, which is derived from salt water and is characterized by a tidal influence (Sandifer et al. 1980:7-9).

The maritime forest ecosystem has been found to consist of five principal forest types, including the Oak-Pine forests, the Mixed Oak Hardwood forests, the Palmetto forests, the Oak thickets, and other miscellaneous wooded areas (such as salt marsh thickets and wax myrtle thickets).

Of these, the Oak-Pine forests are most common, constituting large areas of Charleston's original forest community. In some areas palmetto becomes an important sub-dominant. Typically these forests are dominated by the laurel oak with pine (primarily loblolly with minor amounts of longleaf pine) as the major canopy co-dominant. Hickory is present, although uncommon. Other trees found are the sweet gum and magnolia, with sassafras, red bay, American holly, and wax myrtle and palmetto found in the understory.

Mills, in the early nineteenth century, remarked that:

> South Carolina is rich in native and exotic productions; the varieties of its soil, climate, and geological positions, afford plants of rare, valuable, and medicinal qualities; fruits of a luscious, refreshing, and nourishing nature; vines and shrubs of exquisite beauty, fragrance, and luxuriance, and forest trees of noble growth, in great variety (Mills 1972:66).

The loblolly pine was called the "pitch or Frankincense Pine" and was used to produce tar and turpentine; the longleaf pine was "much used in building and for all other domestic purposes;" trees such as the red bay and red cedar were often used in furniture making and cedar was a favorite for posts; and live oaks were recognized as yielding "the best of timber for ship building;" (Mills 1972:66-85). Mills also observed that:

> in former years cypress was much used in building, but the difficulty of obtaining it now, compared with the pine, occasions little of it to be cut for sale, except in the shape of shingles; the cypress is a most valuable wood for durability and lightness. Besides the two names we have cedar, poplar, beech, oak, and locust, which are or may be also used in building (Mills 1972:460).

The "Oak and hickory high lands" according to Mills were, "well suited for corn and provisions, also for indigo and cotton" (Mills 1972:443). The value of these lands in the mid-1820s was from $10 to $20 per acre, less expensive than the tidal swamp or inland swamp lands (where rice and, with drainage, cotton could be grown).

Today, virtually all of the site area's higher ground evidences some form or another of disturbance. The western portion of the tract has been severely damaged by phosphate mining, while parts of the southeastern portion of the tract evidence logging. A sewerline is located in the eastern portion of the tract, which has caused some significant ground damage.

PREHISTORIC AND HISTORIC BACKGROUND

Previous Research

Numerous projects have taken place in vicinity to the current survey area. Most of the surveys are the result of compliance projects for roads (Bailey and Hendrix 2002) and neighborhoods (Burns and Hendrix 2000; Burns and Hendrix 2001).

Other projects include a survey of Civil War fortifications (Trinkley and Fick 2000), which identified several batteries in vicinity of the survey area.

Two tracts, Bradham and Bolton, have also been surveyed to the west of the current tract (Southerland et al. 2004). Only one site was found in the 453 acres of these two tracts.

Prehistoric Synopsis

Several previously published archaeological studies are available for the Charleston area that provide additional background, including those previously mentioned. A considerable amount of archaeology has been conducted in the Charleston area and these works should be consulted for broad overviews.

The Paleoindian period, lasting from 12,000 to perhaps 8,000 B.C., is evidenced by basally thinned, side-notched projectile points; fluted, lanceolate projectile points; side scrapers; end scrapers; and drills (Coe 1964; Michie 1977; Williams 1968). The Paleoindian occupation, while widespread, does not appear to have been intensive. Artifacts are most frequently found along major river drainages, which Michie interprets to support the concept of an economy "oriented towards the exploitation of now extinct mega-fauna" (Michie 1977:124).

The Archaic period, which dates from 8000 to about 1000 B.C., does not form a sharp break with the Paleoindian period, but is a slow transition characterized by a modern climate and an increase in the diversity of material culture. The chronology established by Coe (1964) for the North Carolina Piedmont may be applied with relatively little modification to the South Carolina coast. Archaic period assemblages, characterized by corner-notched and broad stemmed projectile points, are rare in the Sea Island region, although the sea level is anticipated to have been within 13 feet of its present stand by the beginning of the succeeding Woodland period (Lepionka et al. 1983:10).

To some the Woodland period begins, by definition, with the introduction of fired clay pottery about 2000 B.C. along the South Carolina coast. To others, the period from about 2500 to 1000 B.C. falls into the Late Archaic because of a perceived continuation of the Archaic lifestyle in spite of the manufacture of pottery. Regardless of the terminology, the period from 2500 to 1000 B.C. is well documented on the South Carolina coast and is characterized by Stallings (fiber-tempered) and Thom's Creek (sand or non-tempered) series pottery.

The subsistence economy during this early period on the coast of South Carolina was based primarily on deer hunting, fishing, and shellfish collection, with supplemental inclusions of small mammals, birds, and reptiles. Various calculations of the probable yield of deer, fish, and other food sources identified from shell ring sites such as Lighthouse Point on James Island to the west, also in Charleston County on James Island, indicate that sedentary life was not only possible, but probable.

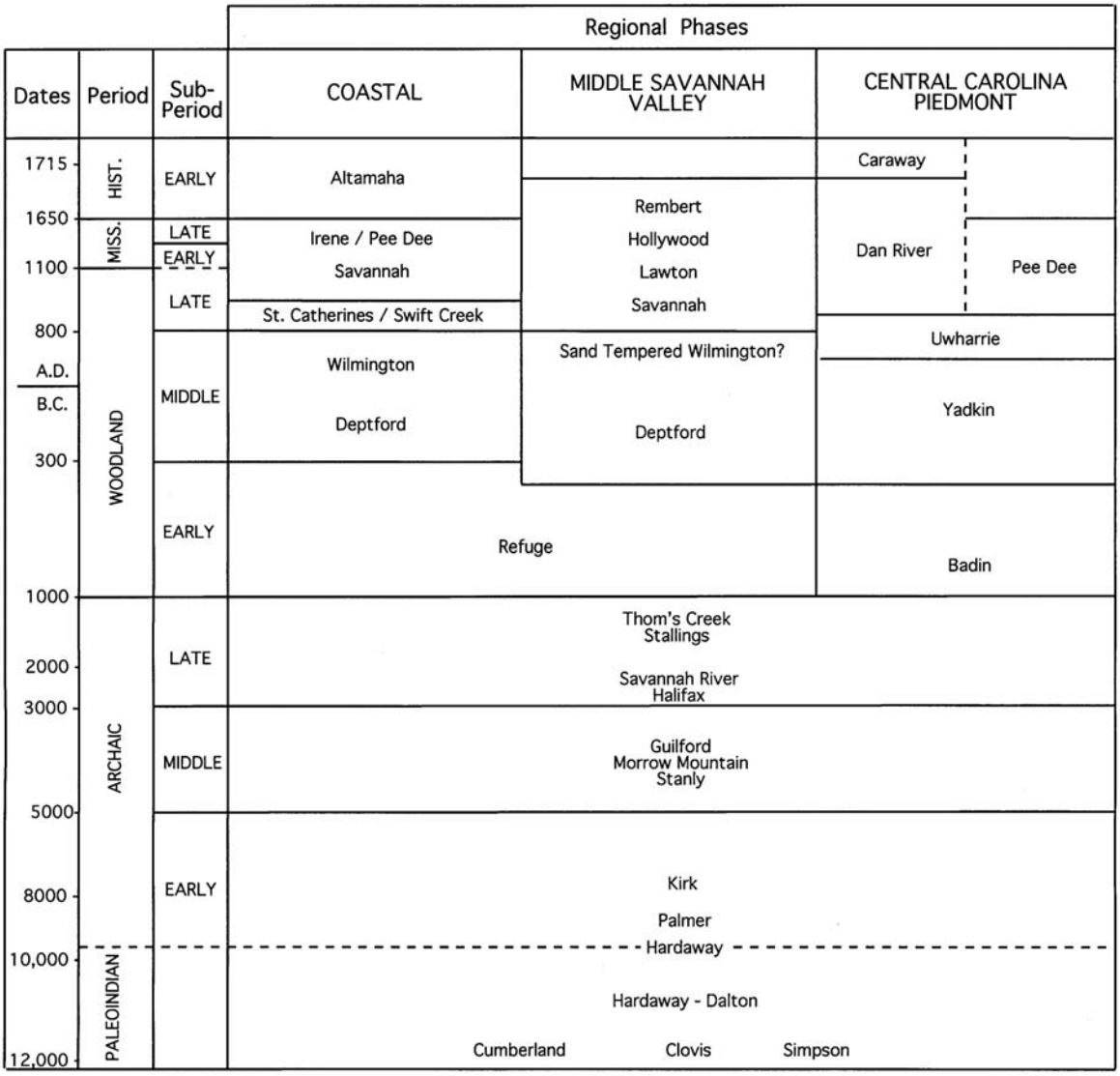

Figure 5. Generalized cultural sequence for South Carolina.

Toward the end of the Thom's Creek phase there is evidence of sea level change, and a number of small, non-shell midden sites are found along the coast. Apparently the rising sea level inundated the tide marshes on which the Thom's Creek people relied.

The succeeding Refuge phase, which dates from about 1100 to 500 B.C., suggests fragmentation caused by the environmental changes (Lepionka et al. 1983; Williams 1968). Sites are generally small and some coastal sites evidence no shellfish collection at all (Trinkley 1982). Peterson (1971:153) characterizes Refuge as a degeneration of the preceding Thom's Creek series and a bridge to the succeeding Deptford culture.

The Deptford phase, which dates from 1100 B.C. to A.D. 600, is best characterized by fine to coarse sandy paste pottery with a check stamped surface treatment. Also present are

quantities of cord marked, simple stamped, and occasional fabric impressed pottery. During this period there is a blending of the Deptford ceramic tradition of the lower Savannah with the Deep Creek tradition found further north along the South Carolina coast and extending into North Carolina (Trinkley 1983).

The Middle Woodland period (ca. 300 B.C. to A.D. 1000) is characterized by the use of sand burial mounds and ossuaries along the Georgia, South Carolina, and North Carolina coasts (Brooks et al. 1982; Thomas and Larsen 1979; Wilson 1982). Middle Woodland coastal plain sites continue the Early Woodland Deptford pattern of mobility. While sites are found all along the coast and inland to the fall line, sites are characterized by sparse shell and few artifacts. Gone are the abundant shell tools, worked bone items, and clay balls. In many respects the South Carolina Late Woodland period (ca. A.D. 1000 to 1650 in some areas of the coast) may be characterized as a continuum of the previous Middle Woodland cultural assemblage.

The Middle and Late Woodland occupations in South Carolina are characterized by a pattern of settlement mobility and short-term occupations. On the southern coast they are associated with the Wilmington and St. Catherines phases, which date from about A.D. 500 to at least A.D. 1150, although there is evidence that the St. Catherines pottery continued to be produced much later in time (Trinkley 1981). On the northern coast there are very similar ceramics called Hanover and Santee.

The South Appalachian Mississippian period (ca. A.D. 1100 to 1640) is the most elaborate level of culture attained by the native inhabitants and is followed by cultural disintegration brought about largely by European disease. The period is characterized by complicated stamped pottery, complex social organization, agriculture, and the construction of temple mounds and ceremonial centers. The earliest coastal phases are named Savannah and Irene (A.D. 1200 to 1550). Sometime after the arrival of Europeans on the Georgia coast in A.D. 1519, the Irene phase is replaced by the Altamaha phase. Altamaha pottery tends to be heavily grit tempered, the complicated stamped motifs tend to be rectilinear and poorly applied, and check stamping occurs as a minority ware. Further north, in the Charleston area, the Pee Dee or Irene ware is replaced by pottery with bolder designs, thought to be representative of the protohistoric and historic periods (South 1971).

Although there has been very little archaeological exploration of historic period Native American groups in the Charleston area, South has compiled a detailed overview of the ethnohistoric sources (South 1972).

Early Settlement and Economic Development

The English established the first permanent settlement in what is today South Carolina in 1670 on the west bank of the Ashley River. Like other European powers, the English were lured to the New World for reasons other than the acquisition of land and promotion of agriculture. The Lord Proprietors, who owned the colony until 1719-1720, intended to discover a staple crop which would provide great wealth through its distribution in the mercantile system.

By 1680 the settlers of Albemarle Point had moved their village across the bay to the tip of the peninsula formed by the Ashley and Cooper rivers. This new settlement at Oyster Point would become modern-day Charleston. The move provided not only a more healthful climate and an area of better defense, but:

> [t]he cituation of this Town is so convenient for public Commerce that it rather seems to be the design of some skillful Artist than the accidental position of nature (Mathews 1954:153).

Early settlers came from the English West Indies, other mainland colonies, England, and the European continent. It has been argued that those from the English West Indies were the most

critical to the future of the colony, as they brought with them a strong agrarian concept, involving both staple crops and, especially, slave labor (Sirmans 1966).

Early agriculture experiments which involved olives, grapes, silkworms, and oranges were less than successful. Ironically, it was often the climate which precluded successful results. While the Indian trade was profitable to many of the Carolina colonists, it did not provide the proprietors with the wealth they were expecting from the new colony. Ranching offered quick, and relatively easy, cash, but again the proprietors resisted such efforts, realizing that the profits they would reap were far smaller than possible from the mercantile system. Consequently, the cultivation of cotton, rice, tobacco, and flax were stressed as these were staple crops whose marketing the proprietors could easily monopolize.

Although introduced at least by the 1690s, rice did not become a significant staple crop until the early eighteenth century. At that time it not only provided the proprietors with an economic base the mercantile system required, but it was also to form the basis of South Carolina's plantation system (Carpenter 1973). Over production soon followed, with a severe decline in prices during the 1740s. This economic down swing encouraged at least some planters to diversify and indigo was introduced (Huneycutt 1949:33). Indigo complemented rice production since they were grown in mutually exclusive areas. Both, however, were labor intensive and encouraged the large scale introduction of slaves.

Although four counties, Berkeley, Craven, Colleton, and Granville, were created by the Proprietors between 1682 and 1685, the Anglican parishes, established in 1706, became the local unit of political administration.

South Carolina's economic development during the pre-Revolutionary War period involved a complex web of interactions between slaves, planters, and merchants. By 1710 slaves outnumbered free people in South Carolina. According to Fick (1992:14), by the year 1720 the St. Andrews Parish had 210 taxpayers and 2,493 slaves, a ratio of 1:12. By the 1730s slaves were beginning to be concentrated on a few, large slave-holding plantations. At the close of the eighteenth century some South Carolina plantations had a ratio of slaves to whites that was 27:1 (Morgan 1977). While over half of eastern South Carolina's white population held slaves, few held very large numbers. The Charleston area had a slave population greater than 50% of the total population by 1790. This imbalance between the races, particularly on remote plantations, may have led to greater "freedom" and mobility (Friedlander in Wheaton et al. 1983:34). By the antebellum period this trend was less extreme.

The area was the scene of relatively little economic development during the late colonial period. Zierden and Calhoun note that:

> Charleston was the economic, institutional and social center of the surrounding region. The necessity of transacting business in Charleston drew planters eager to transform their crops into cash or goods . . . it [was] virtually imperative for a planter interested in society to reside in Charleston at least occasionally (Zierden and Calhoun 1984:36).

They argue that Charleston provided an opportunity for conspicuous consumption, a mechanism which allowed the display of wealth accumulated from the plantation system (with this mechanism continuing through the antebellum period). Scardaville (in Brockington et al. 1985:45) notes that the plantation system which brought prosperity through the export of staple crops also "made the colony . . . highly vulnerable to outside market and political forces."

The most obvious example of this is the economic hardship brought on by the American Revolution. Not only was the Charleston area the

scene of many military actions, but Charleston itself was occupied by the British for over 22 years between 1780 and 1782. The loss of royal bounties on rice, indigo, and naval stores caused considerable economic chaos with the eventual "restructuring of the state's agricultural and commercial base" (Brockington et al. 1985:34).

Antebellum Charleston, Cotton Production, and the Civil War

One means of "restructuring" was the emergence of cotton as the principal cash crop. Although "upland" cotton was available as early as 1733, its ascendancy was ensured by the industrial revolution, the invention of the cotton gin in 1794, and the availability of slave labor. While "Sea Island" cotton was already being efficiently cleaned, the spread of cotton was primarily in the South Carolina interior. Consequently, Charleston benefitted primarily through its role as a commercial center.

Cotton provided about 20 years of economic success for South Carolina. During this period South Carolina monopolized cotton production with a number of planters growing wealthy (Mason 1976). The price of cotton fell in 1819 and remained low through the 1820s, primarily because of competition from planters in Alabama and Mississippi. Friedlander, in Wheaton et al. (1983:28-29) notes that cotton production in the inland coastal parishes fell by 25% in the years from 1821 to 1839, although national production increased by 123%. Production improved dramatically in the 1840s in spite of depressed prices and in the 1850s the price of cotton rose.

The Charleston area did not participate directly in the agricultural activity of the state. Scardaville (in Brockington et al. 1985:35) notes that "the Charleston area, as a result of a large urban market and a far-reaching trade and commercial network, had carved out its own niche in the state's economic system." Zierden and Calhoun remark that:

> [c]ountry merchants, planters, and strangers "on a visit of pleasure" flocked to Charleston.

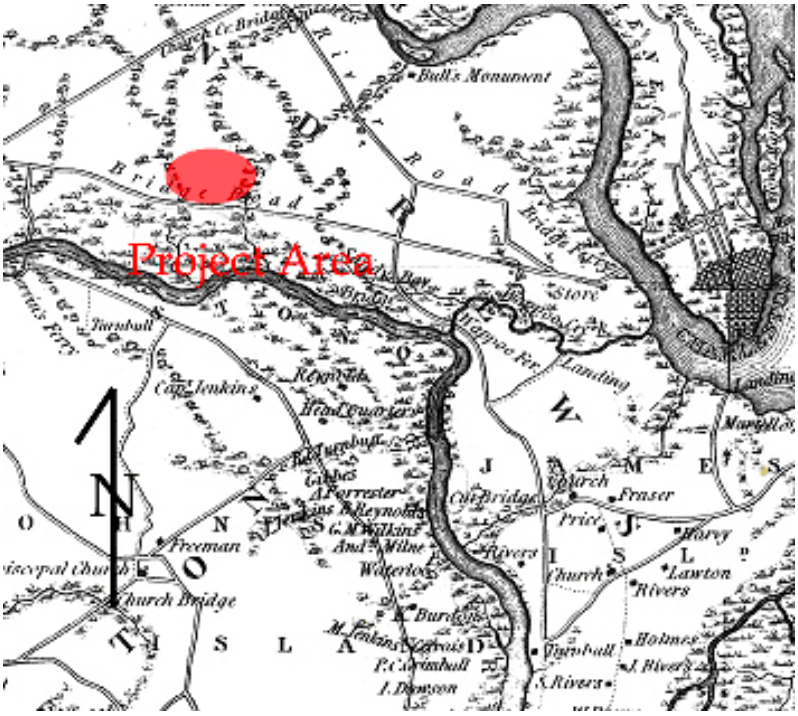

Figure 6. Portion of Mills' *Atlas* showing the project area.

> Planters continued to establish residences in Charleston throughout the antebellum era and "great" planters began to spend increasing amount of time in Charleston (Zierden and Calhoun 1984:44).

In spite of this appearance of grandeur, Charleston's dependence on cotton and ties to an international market created an economy vulnerable to fluctuation over which the merchants and planters had no control.

The development of the railroad, which

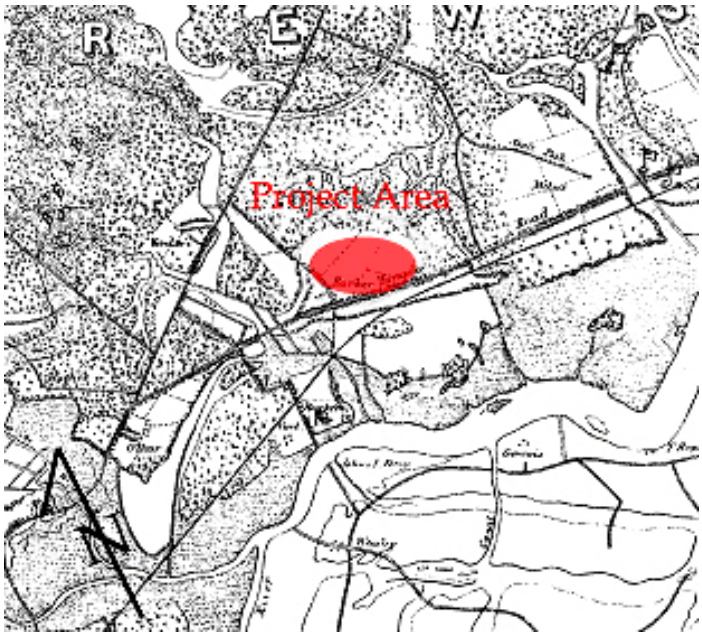

Figure 7. Portion of the 1863 *Map of Charleston and Its Defences* showing the project area.

encouraged trade to the upcountry, brought a revived Charleston economy. By 1857, St. Andrews received a rail line that ran to Savannah, further impacting the commercial economy (see Fick 1992:27).

The 1863 *Map of Charleston and Its Defences* (Figure 7) shows the survey area as cultivated fields.

The increase in commercial activity, however, was short lived. The Civil War not only destroyed the architecture of the city, but it destroyed the economic order that was once so important in Charleston.

An appropriate summary is provided by Zierden and Calhoun:

> [t]he economic decline of Charleston occurred as the city was growing increasingly defensive of its "peculiar institution." The city sullenly withdrew into itself, eschewing the present and glorifying its past. The great fire of 1861 devastated much of downtown Charleston. The War between the States . . . set the seal on a social and economic era (Zierden and Calhoun 1984:54).

Postbellum Period

After the Civil War Charleston and the surrounding countryside lay in waste. Plantation houses were destroyed, the city was in near ruins, the agricultural base of slavery was destroyed, and the economic system was in chaos. Rebuilding after the war involved two primary tasks: forging a new relationship between white land owners and black freedmen, and creating a new economic order through credit merchants. General sources discussing the changes in South Carolina include Williamson (1975), Goldenwieser and Truesdell (1924), and more recently, Zuczek (1996). Scardaville (Brockington et al. 1985:43-48), however, provides information on the changing labor patterns specifically in the study area.

The nearby Christ Church Agricultural Society, organized in 1882. The Society's membership, like that of other organizations of the period, consisted of the remnants of the Southern planting aristocracy. The organizations, founded to encourage and promote the return of the "agrarian south," were concerned with a vast range of issues, including planting practices, the prices offered for various crops, the transportation of crops at reasonable prices on the new railroads, and resolving what were considered constant labor problems, i.e., the control of "Negroes."

For example, as late as 1909 the members of the Christ Church Agricultural Society agreed to a list of labor rules closely resembling antebellum slavery, including:

- no laborer shall be taken who is in debt, without payment of such

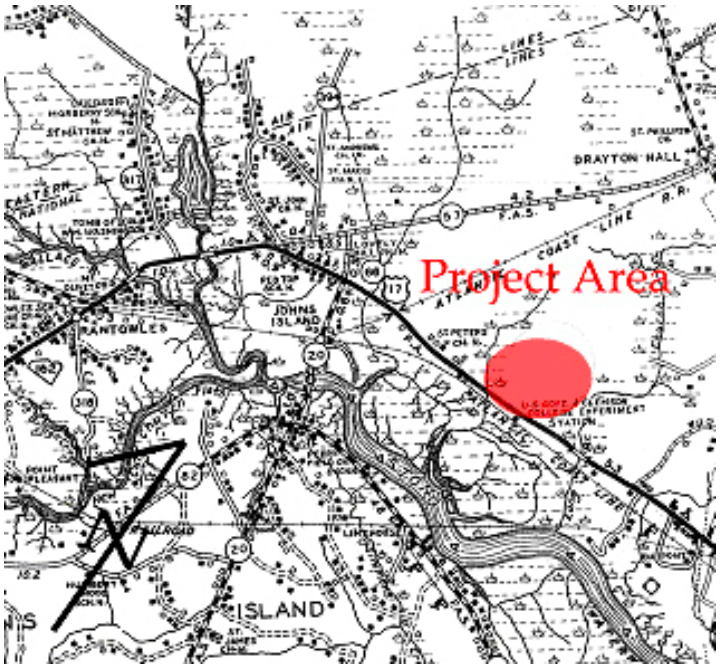

Figure 8. Portion of the 1942 *General Highway and Transportation Map of Charleston County* showing the project area.

debt.

> ▪ no laborer who has been discharged for insubordination shall be taken during the current year or within six months.
>
> ▪ that all tenants shall agree to give there [sic] spare time to their landlords when called on (South Carolina Historical Society, Christ Church Agricultural Society Minute Book, 34-197).

The society's constant interest in agricultural prices and conditions is shown by a 1902 report:

> unusually fine corn crops planted in the parish, and also find the acreage a large one, which gives promise of a large yield. Peas and potatoes have not been neglected and, on the whole, the crops generally are up to the standard. The committee found the asparagus crops in good condition and some of the crops of young asparagus above the average. No complaints were made of rust . . . . Labor is abundant, but getting more and more inefficient each year . . . . Until we cease employing labor that has been discharged for cause, inefficiency, etc. . . . so long will we make the labor more and more worthless. We pay from 40 to 50 cents per day for our labor and I doubt if, under the best management, we receive 20 to 25 cents value for it . . . . The prices obtained for truck, during the past year have not been remunerative, more stuff being shipped and less money realized; in some instances the falling off amounting to 30 percent (South Carolina Historical Society, Christ Church Agricultural Society Minute Book, 34-197).

As Scardaville notes (Brockington et al. 1985:52), it is very difficult to use the agricultural schedules for economic analyses after 1870. The 1880 schedule seriously under-represents Charleston District, the 1890 schedules were destroyed by fire, all subsequent schedules are provided only on a county level (the individual parish and farm level information being destroyed under authority of Congress), and vital information is missing from the 1900 census. At a county-wide level, however, it is clear that between 1870 and 1910 Charleston's agricultural production gradually increased, the labor system stabilized, and prosperity returned.

In terms of relative importance, cotton and livestock were the two most important agricultural activities in Charleston County, followed by truck farming and grain production. During the late postbellum tenancy increased

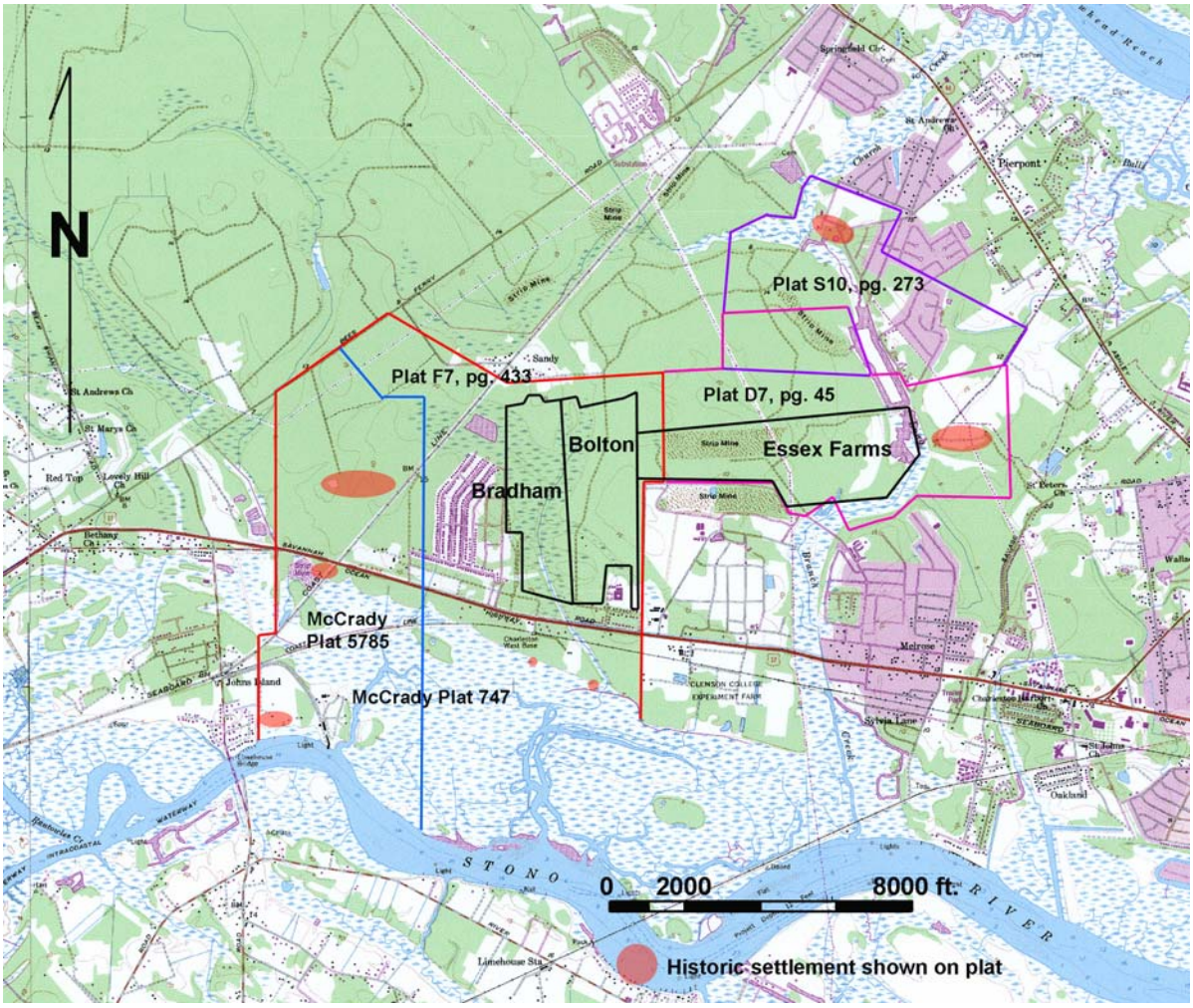

Figure 9. Modern topographic map showing the survey tracts (in black) and the various plats identified during the chain of title research. Also shown are documented historic settlements – all of which are outside the study area.

dramatically throughout South Carolina, except for several coastal areas where Scardaville suggests black farmers were able to purchase small tracts. Where tenancy did exist, it was largely cash rental, not sharecropping, and Scardaville argues that this formed the vital link allowing black ownership (Scardaville in Brockington et al. 1985:62).

Beginning shortly after the Civil War, truck farming became one of the primary agricultural activities of area farmers. The combination of soil fertility, climate, and proximity gave truck farming an edge in the effort to supply Charleston with produce. As early as 1873 it was noted:

> the cultivation of garden produce for export in the neighborhood of Charleston, was not pursued as an occupation previously to the years 1865 or 1866. [Recently,] there are a large class of farmers & planters in St. Andrew's and Christ Church Parishes . . . who, in connection with a crop of Sea Island cotton, grow vegetables for export (Charleston Chamber of Commerce 1873:32-33).

As a result many blacks were employed as wage laborers. Produce increased from about one-quarter of the county's agricultural production in 1890 to over three-quarters by 1930 (Scardaville in Brockington et al. 1985:74). Much of this prosperity, however, disappeared during the Great Depression, when trucking in Charleston County declined by 75%.

As agriculture production declined during the depression, beef and dairy farming gained ground (Fick 1992:51). In St. Andrews Parish, Coburg Dairy was founded in 1920 and by 1969 Coburg was the "largest independent dairy in the state" (Fick 1992:51).

The 1942 *General Highway and Transportation Map of Charleston County* shows the survey area as being wet and no structures located on the property.

Table 1
Conveyances of the subject project
The subject property is about 881 acres, composed of three parcels shown on Charleston County Tax Assessor's map sheet 307-00-00, as parcels 3, 4, and 5. Parcel 3, 428 acres, lies on the Woodford/Miles Tract, while Parcels 4 and 5 are on the 3000 acre tract as discussed in the accompanying text.

Parcel 3, about 428 acres (Woodford [aka Lance] Plantation, 602 acres)

1744	John Holman to Peter Bacot & William Miles, trustees for Lambert Lance
?	To Lambert Lance in his own right
1800	Lambert Lance to William Miles, who owned 527 adjoining acres to the north
1816	At auction to Simon Magwood, combined 1,129 acres
1837	To Simon Magwood in partition, 402 acres of Woodford/Lance
?	To Bulow Mines (with other Magwood lands north to Church Creek)
?	To Gibbes, McLeod & Legge

Parcels 4 and 5, about 453 acres together, lie on Arthur Middleton's 3,500 acres

1796	Thomas O. Elliott to Thomas Middleton, 1798 acres
?	To Thomas Middleton, additional 1,702 acres
1822	Heirs of Thomas Middleton to Arthur Middleton (1785-1837) 3,500 acres
?	Arthur Middleton to unknown, 1,276 acres
1844	To R. Izard Middleton (1814-1891), 2,224 acres in partition of his father Arthur's estate
?	R. Izard Middleton to N. Russell Middleton
1850	N. Russell Middleton reports 3,200 acres in St. Andrews Parish
1852	N. Russell Middleton to Samuel G. Barker, 3,000 acres
1862	Samuel G. Barker to Ellen Barker (by will)
1867	Ellen Barker to David J. Jackman & Milton Courtright
?	David J. Jackman to Milton Courtright
1911	Heir of Courtright to Peter B. Bradley & Robert S. Bradley
1931	Heirs of Courtright to Bradley Estates
1949	Bradley Estates & Bradley Realty to Gibbes, McLeod & Legge

Tract Specific History

The subject property is part of a much larger tract of about 3,000 acres that extended from the Stono River nearly to Church Creek. The

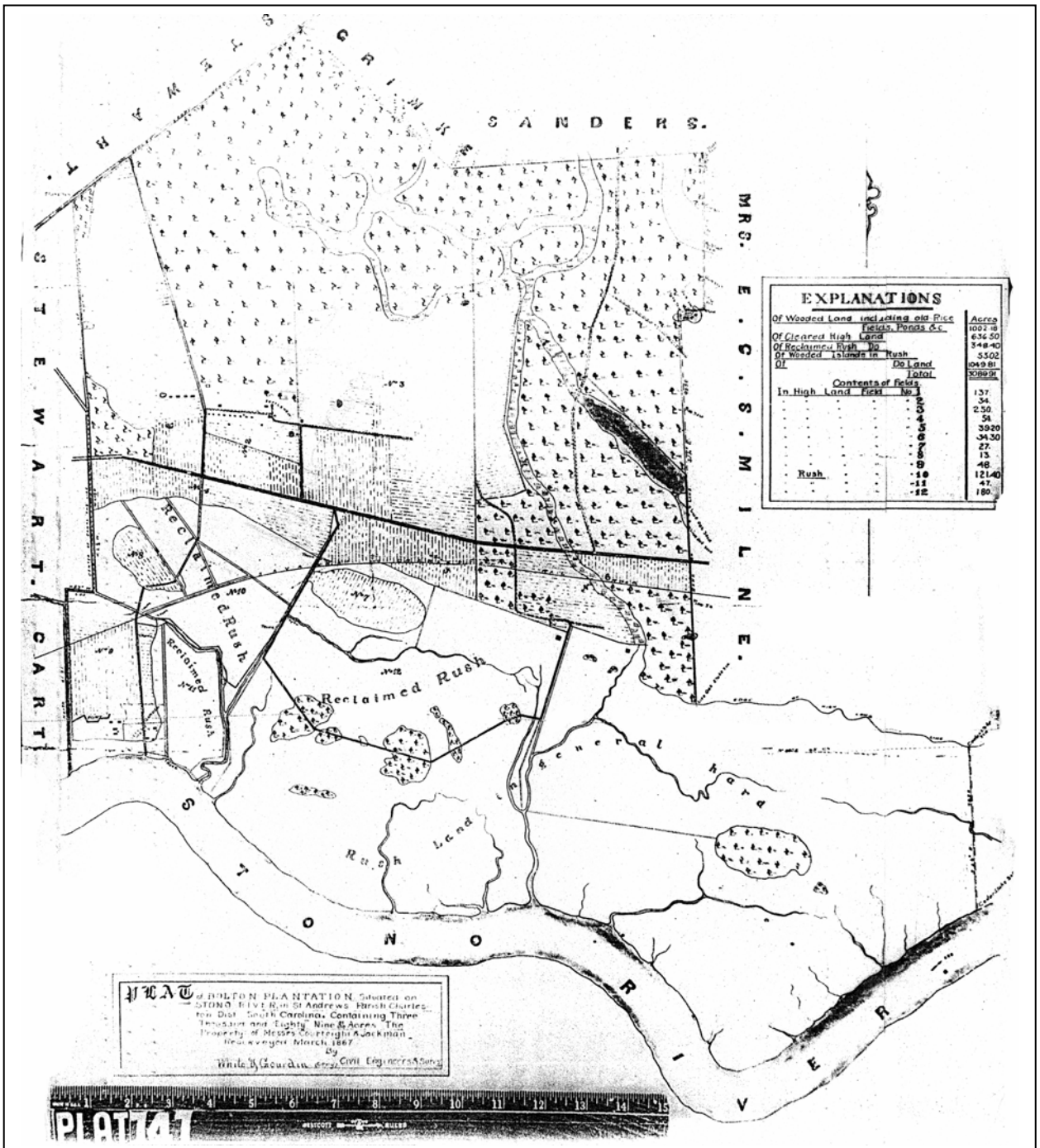

Figure 10. 1867 plat of the 3,089 acre Bolton Plantation (McCrady Plat 747).

larger tract was shown as 3,098 acres on a plat made in 1867, (Figure 10), but was described variously as 2,994 acres (Charleston County RMC Deed Book U50, p. 387), and "about 3000 acres," (Gaillard 1947). Over time it has been called "Bolton" (Charleston County Inventories, Book F, p. 423; Kollock, "Property Map of Charleston County"), "Barker" (Johnson map of 1863), and

"Bulow" (*News and Courier* 3/8/1931; Lindsay 1977; Chibbaro 1990).

In 1949 Bradley Estates Inc. conveyed a 2/3 interest in this tract to Coming B. Gibbes, Julia C. McLeod and Lionel K. Legge, trustees for Helen McLeod, and Dorothy McLeod Rhodes, for $47,000. At the same time, Bradley Realty Corporation, conveyed its 1/3 interest to the same parties for $23,700. (Charleston County RMC Deed Book U50, p. 587-592) The land had been extensively mined for phosphates during the late nineteenth and early twentieth centuries, and was subsequently divided into smaller parcels.

Beginning soon after the Civil War, the phosphate mining industry affected significant sections of St. Andrews Parish. While river mining was not as important as it became in Beaufort County, large numbers of former slaves labored at land mines in southwestern Charleston County (and in St. Paul's Parish, which was then in Colleton County). The furrows and pits that were exploited then are visible in the landscape which subsequently grew up in pines and scrub hardwoods.

In January 1867 Ellen Barker conveyed to David K. Jackman and Milton Courtright of Pennsylvania for $36,000, a plantation of about 2,994 acres on Stono River, "formerly belonging to Samuel G. Barker" (her late husband) (Charleston County RMC Deed Book A15, p. 150).

Jackman subsequently conveyed his interest to Courtright, an industrialist and railroad engineer of Erie, Pennsylvania. In December 1911 Courtright's grandson conveyed his interest to Peter B. Bradley and Robert S. Bradley, but not until 1931 did the remaining Courtright heirs convey their interests to Bradley Estates, Inc. (Charleston County RMC Deed Book U50, p. 387).

We have not explored the business arrangement between Courtright, William L. Bradley, and Bradley's sons Peter and Robert. During the 1860s, W. L. Bradley (1826-1894) was a manufacturer of commercial fertilizers. In Boston in 1872, he incorporated the Bradley Fertilizer Company, which evolved into American Agricultural Chemical Company as it expanded into New York, Ohio, Maryland, New Jersey, Georgia (Augusta), and South Carolina (Charleston) (Historic Record of the Town of Meriden, CT, 1906, Vol. 2, 418-423, cited in bradleyfoundation.org/ genealogies).

Bradley became a partner in the Marine and River Phosphate Mining and Manufacturing Company, a South Carolina corporation formed in 1870. He bought the Bulow Plantation (see Charleston County RMC Deed Book X9, p. 366, 1822 conveyance of 1,098 acres to John J. Bulow) and adjacent land on Rantowles Creek. By 1884 Bulow Mines had recovered 30,000 tons of phosphate rock and was employing 350 workers. (Chibbaro 1990). The Courtright-Bradley property, including the subject tract, was considered part of Bradley's "Bulow."

The Bulow Mines were among the best-known in the Charleston area. African-Americans from throughout southern Charleston County (see Lindsay 1977: 19-25) found employment here. The industry revitalized plantations which had largely been abandoned decades before. After the collapse of the phosphate industry, although the property was largely worthless, Peter Bradley (1850-1933) retained his winter estate. In 1931 the Charleston *News and Courier* featured Peter Bradley's holdings near Rantowles, notably Bulow Plantation, a phosphate mine development and his winter home "for forty years" (*News and Courier* 3/8/1931). There he entertained, hunted game, attempted cattle husbandry, and enjoyed his fine Arab horses (*News and Courier* 3/20/39, 2/28/43; from 1894, Bradley was a major breeder of imported Arabian stock).

Given the extent of previous research in the phosphate industry provided by Fletcher et al. (2003), we have not devoted great effort to exploring the history of phosphate works on the study tract. We should note, however, that Chazal (1904:62) briefly mentions the Bolton Mines on the Stono River and that "while operated by its

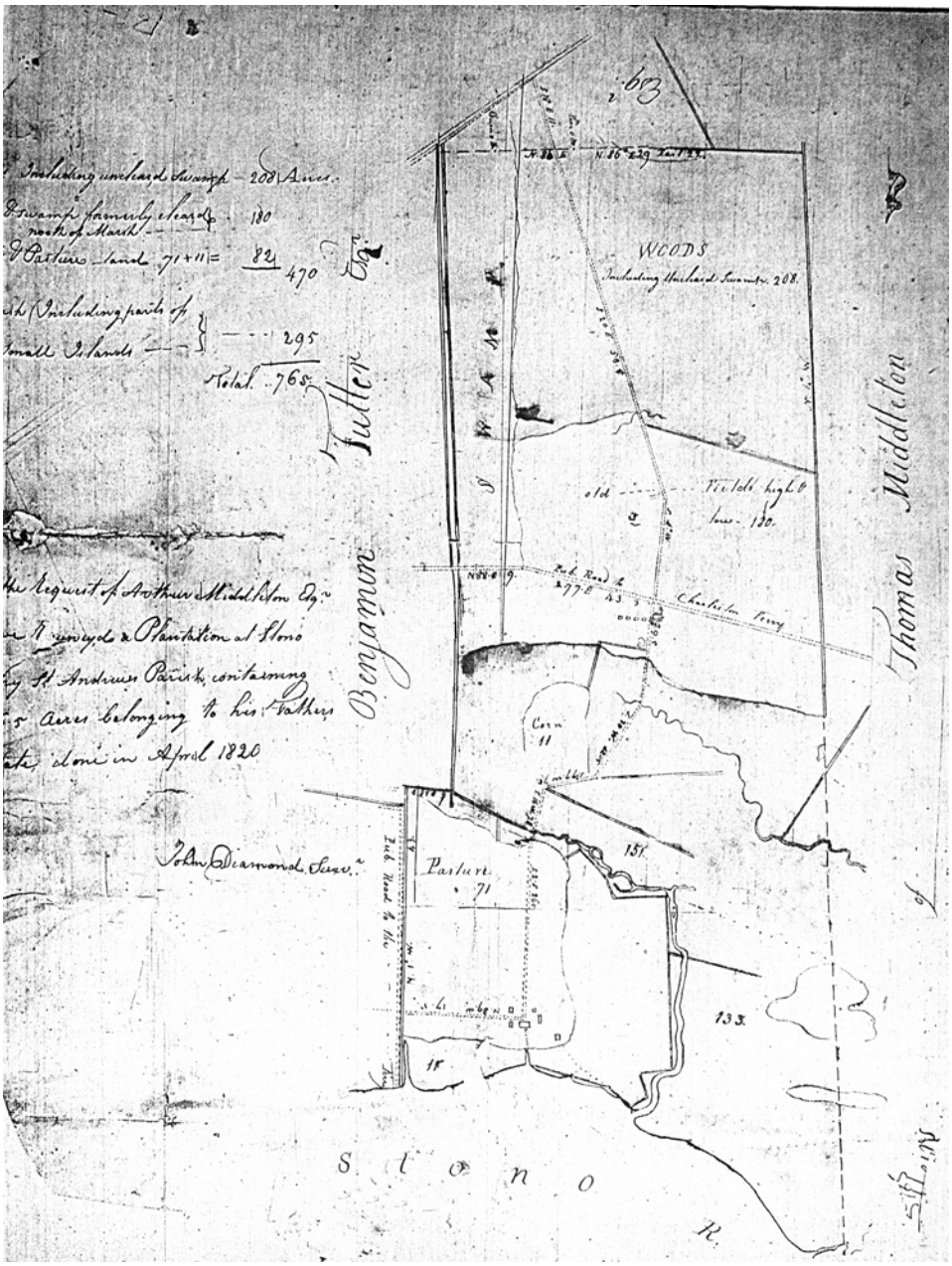

Figure 11. 1820 John Diamond plat of lands belonging to Arthur Middleton (McCrady Plat 5785). This property is the eastern portion shown in McCrady Plat 747.

owners or lessees" sold exclusively to the Virginia-Carolina Chemical Company, which entered the Carolina phosphate industry with its purchase of the Fetteressa plant at Bee's Creek in 1901. This company went on to absorb many of the original, small South Carolina companies, including the Atlantic, Chicora, Imperial, Standard, Stone, Wando, Ashley, Georgia Chemical, Baldwin, Columbia, Globe, Greenville, and Blacksburg works (Chazal 1904:67-68). Wyatt (1891:55) does not note Bolton as operating in the late nineteenth century, although there were several companies in the general area that may represent the "lessees" mentioned by Chazal.

Peter Bradley's winter residence stood on the east bank of Rantowles Creek, west of the subject tract. He may have used the subject property in some fashion after a third of it was conveyed to him in 1911, but the phosphate industry had been inactive for two decades when Courtright's heirs finally conveyed their remaining right in the 3,000-acre Barker tract to Bradley Estates, Inc. (Charleston County RMC Deed Book U50, p. 587-592).

The Barker Tract sold to phosphate interests in 1867 was made of land formerly belonging to the Middleton family. Based on plats and deeds, there were at least two principal

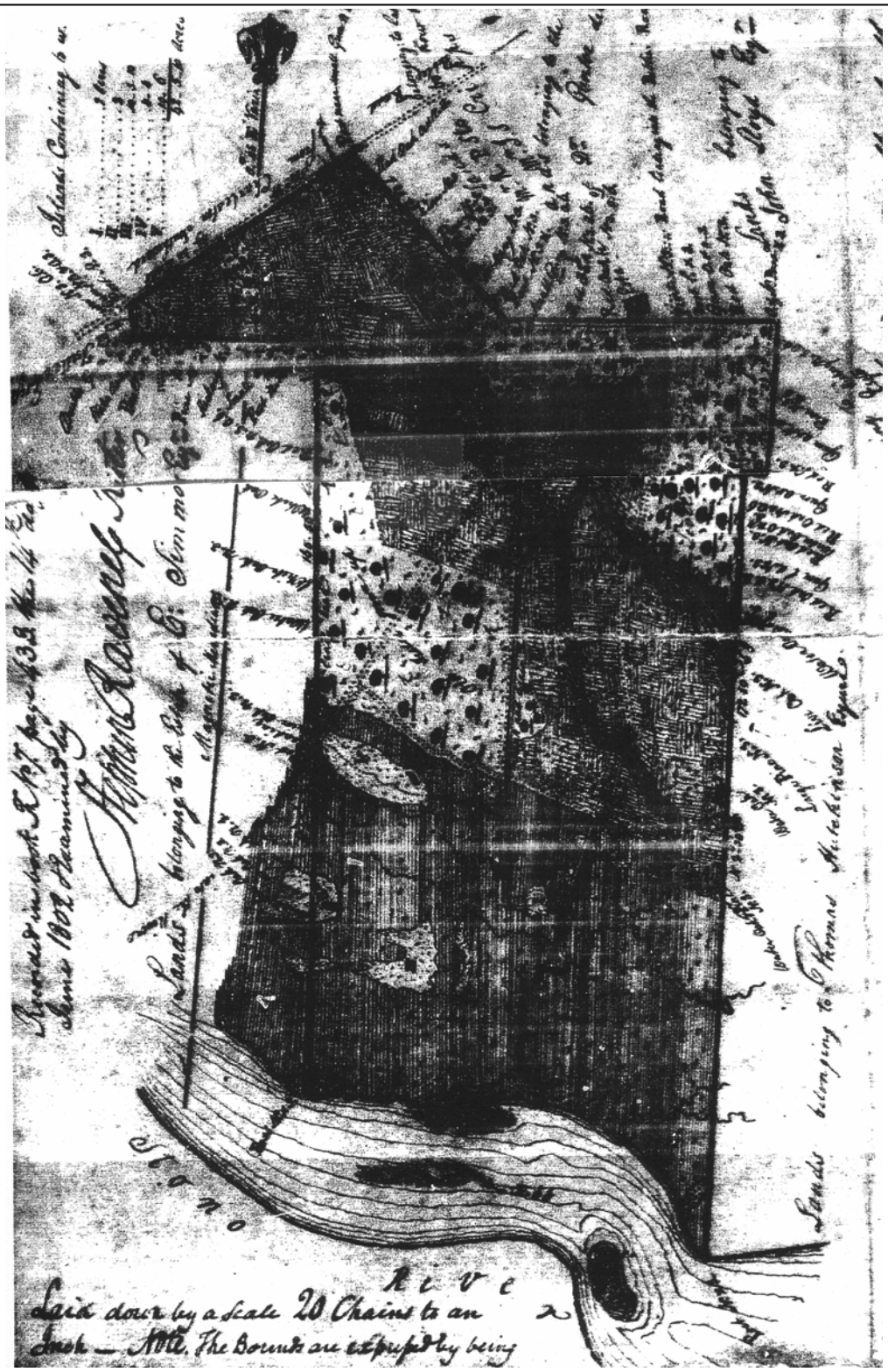

Figure 12. 1786 Joseph Purcell plat of lands to be conveyed to Thomas Middleton (Charleston Co. RMC, DB F7, pg. 433.)

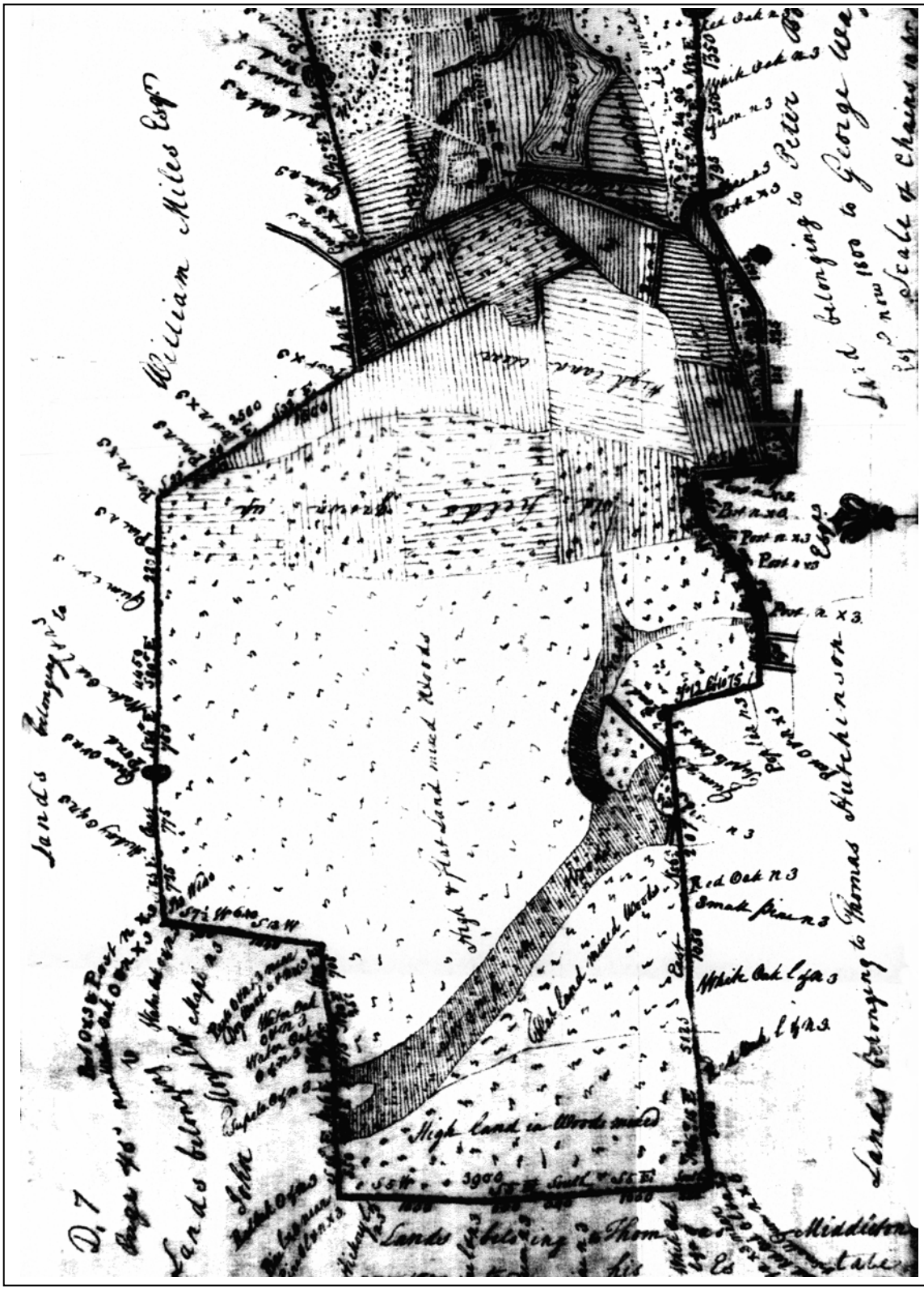

Figure 13. 1800 plat of 602 acres conveyed by Lambert Lance to William Miles (Charleston Co. RMC, DB D7, pg. 45).

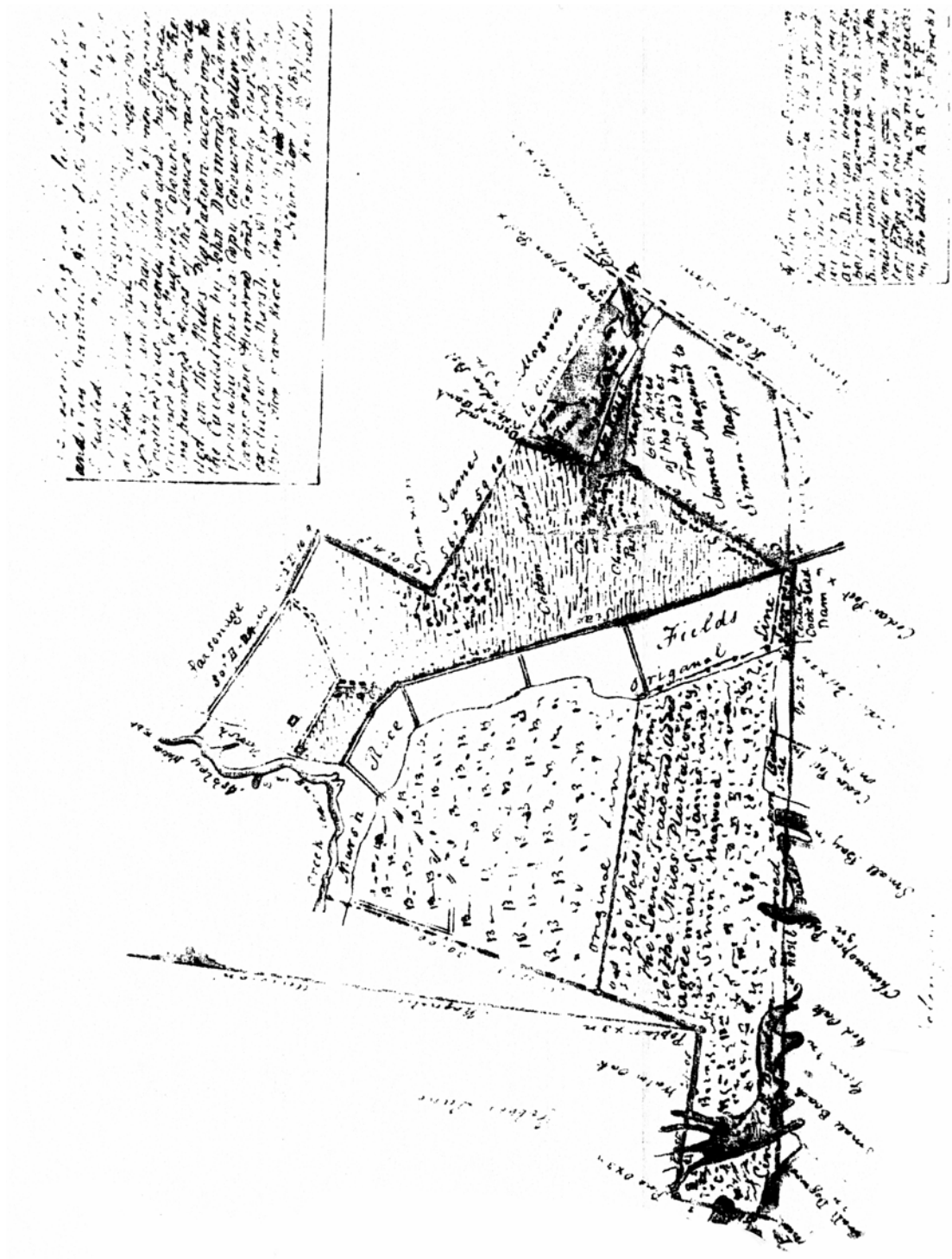

Figure 14. 1837 plat of the Miles tract, including the Lance tract to the south (Charleston County RMC DB S10, p. 273).

plantation residences (white owners) and two or more slave settlements on the plantations that came to be held by Samuel G. Barker. None of them appear to lie on the subject property: the residence plantation of Thomas (1753-1797) and his son Arthur Middleton (1785-1837) was to the west, and the settlements on "Woodford," the Lance-Miles tract that passed from Magwood to Middleton, was to the east.

In 1852 Samuel Gaillard Barker of the City of Charleston paid N. Russell Middleton $15,000 for a 3,000-acre tract known as the residence of the late Thomas Middleton (Charleston County RMC Deed Book Q12, p. 167). Son of Henrietta Gaillard and Joseph Sanford Barker, Barker was married to Ellen Milliken King (1834-1914), a daughter of Judge Mitchell King (1783-1862) of Charleston (Mitchell King Papers, University of North Carolina at Chapel Hill). According to the Deeds Index at Charleston County RMC, Barker owned a great deal of property along the Cooper River and in downtown Charleston, and there is no evidence he lived on the subject tract. His will, written in 1861 and probated January 1863 (Charleston County Wills, Book 50, p. 16), does not detail his real estate holdings. The "valuation of articles on Bolton Plantation" (Charleston County Inventories Book F, p. 423) lists three slaves, livestock (six cows, two mares with colts, nine yearlings), several carts, three McCarthy gins, a cotton press, and a stock of cotton seed (filed February 1863). The further inventory of his personal property (Book F, p. 217), presumably at his Charleston residence, includes fine household goods and 14 slaves.

The 3,000-acre tract acquired by Barker in 1852 included several smaller plantations. The residence of Thomas Middleton (1753-1797) stood on a 765-acre tract (Figure 11) bounded north and east by other lands of the Estate of Thomas Middleton, south on Stono River, west on Benjamin Fuller and the public road leading to Guerin's Ferry. None of this tract is within the subject property. The Middleton lands to the east included a 3,500-acre tract between Stono River and the main road from Charleston (generally the route of today's Highway 17), some of which was added to Thomas Middleton's residence tract during the time it was owned by his grandson Nathaniel Russell Middleton, and part of which is within the subject property. In addition to land that had been held by other Middletons, N. Russell Middleton also acquired property from the heirs of Simon Magwood (part of which is within the subject property).

The Middleton family was prominent in the political and planting affairs of St. Andrews Parish from an early date. Thomas Middleton (1753-1797) was a son of Henry Middleton (1717-1784), and the father of Mary (born 1784), Arthur (1785-1837), Elizabeth (1787-1822), Hester (1790), Anne (1792), Henry Augustus (1793-1887), Henrietta, and Thomas (1797-1863) Middleton (Cheves 1900).

His children were all underage in 1797 when Thomas Middleton died intestate, and process of dividing his estate lasted many years. Some of it was partitioned through an auction held February 20, 1821. Three plantations on Stono River were described in a newspaper advertisement (*Charleston Courier*, 2/20/1821). The first was "six miles from Charleston, and containing about 500 acres of high land, and nearly 300 of marsh, under bank until the hurricane of 1804, and produced great crops." The second contained "about the same number of acres of high land and marsh, also under bank, interspersed with islands of excellent quality." The third, evidently the 765 acres which included Thomas Middleton's residence, was "470 acres of high and swamp land, and about 295 acres of marsh, also under bank, a small portion of which has been cultivated this year, and produced well considering the season." Finally, there was a marsh tract, "adjoining T. B. Seabrook's plantation," of 428 acres, with "an island of 20 acres in the center, covered with original growth."

Not all of the elder Thomas Middleton's land was sold in 1821. In 1822 the other heirs conveyed to Arthur Middleton for $500 plus "other valuable consideration," a 3,500-acre tract

bounded north by the main road from Ashley River to Rantowles Ferry, south by Stono River, and west by Guerin's Ferry (Charleston County RMC Deed Book H9, p. 452). Middleton had paid 5,000 guineas (in the British monetary system, a guinea was equal to 21 shillings - a pound plus one shilling) to Thomas Odingsell Elliott for a part of this tract in 1796, 1798 acres between the Stono River to the "public road from Charleston southward" (Charleston County RMC Deed Book F7, p. 431-435, see related transactions at p. 436-439; Figure 12). We have not traced the conveyances which brought the plantation from 1,798 acres to 3,500 acres. Members of the Middleton family owned much of the land in the area, and a comprehensive history of their holdings is beyond the scope of this project.

However, Arthur Middleton (1785-1837) occupied tracts on the Stono as well as Vaucluse Plantation on the Ashley River, where several of his children were born (Cheves 1900). Although Thomas Middleton (1797-1863) bought his father's 765-acre residence tract for $9,000 in February 1821 (Charleston County RMC Deed Book I9, p. 184), it was his brother Arthur who resided there with his wife Alicia Hopton Russell (1789-1840, daughter of Charleston merchant Nathaniel Russell; see the will of Arthur Middleton, Charleston County Will Book 41, p. 575, and the inventory of his estate, Book H, p. 245).

In 1844 Arthur and Alicia's sons Nathaniel Russell Middleton (1810-1890) and Ralph Izard Middleton (1814-1891) partitioned "certain lands and Negroes." N. Russell received the 765-acre plantation on Stono River "whereon Arthur lived," and R. Izard received the 2,224-acre adjoining tract (Charleston County RMC Deed Book P11, p. 66).

Arthur Middleton's Stono River plantation was only part of the holdings of Nathaniel Russell Middleton. The on-line guide to the Nathaniel Russell Middleton collection at UNC Chapel Hill mentions 1840s correspondence about management of "Bolton-on-the-Stono." We did not investigate these letters, said to concern the possibility of acquiring adjacent land and the training of slave carpenters. In 1850 N. Russell Middleton reported to the census ownership of 3,200 acres: 900 improved, and 2,300 unimproved.

We did not find conveyances showing all the locations and former owners of N. Russell Middleton's St. Andrew's Parish lands. Apparently he came into some of his brother's property when R. Izard Middleton shifted his planting interests to Georgetown County (Cheves 1900).

In 1849 N. Russell Middleton harvested 40 bales of cotton, along with 12,000 pounds of rice and 1,000 bushels of corn, 150 bushels peas/beans, 1,000 bushels sweet potatoes, and 8 tons of corn blades (used as animal fodder) on his 3,000 acres. Despite his success, the 40-year-old Middleton soon retired from planting and moved with his large family to the City of Charleston. In 1852 he sold his St. Andrews Parish plantation to Samuel Gaillard Barker of the City of Charleston for $15,000 (Charleston County RMC Deed Book Q12, p. 167). Subsequently, he was appointed treasurer of the Northeastern Railroad Company, served as treasurer of the city of Charleston, then held the position of president of the College of Charleston from 1857 to 1880 (Cheves 1900).

Barker's use of Bolton-on-Stono is hard to interpret. He reported to the 1860 census that 1,500 of its acres were improved. Yet he had only 32 slaves in 20 cabins, and declared production of no rice, no cotton, only 800 bushels of corn and 20 of peas/beans. Yet he kept 6 horses, 4 mules/donkeys, and 13 working oxen along with his 51 cattle and 40 sheep. However, only a few years later when his inventory was made in 1863, there were cotton gins, a press, and seeds (Charleston County Inventories, Book F, p. 423). This suggests that Barker, or an overseer, or the census taker himself, under-represented activities on the tract to the census, that there was a rather sizable error on the part of the published census, or that the activities on the tract changed dramatically in only a few years. Regardless, it is doubtful that Barker's widow maintained any agricultural activities in St. Andrews Parish after

1863, and in 1867 she sold the tract to northern interests.

The subject acreage also includes part of a 602-acre plantation earlier known as Woodford (Figure 13) that was conveyed by Lambert Lance to William Miles of St. Andrews Parish for £2000 sterling in 1800 (Charleston County RMC Deed Book D7, p. 45). Miles combined it with land he already owned to its north, and in his will required that his "Aunt Fuller" would be allowed to live in the house he had purchased from Lambert Lance, with the use of 30 acres adjoining the house; to his wife he left the use of his own house and other buildings in St. Andrews Parish (Charleston County Will Book 30, p. 1087). Nearly a decade after Miles' 1807 death, his two adjoining tracts, totaling 1,129 acres, were sold to Simon Magwood (1763-ca. 1835) for $17,142.84 in 1816. We have not found a plat of this property, which was described as bounding north on Church Creek, Parsonage Lands, and Estate John Lloyd (Charleston County RMC Deed Book P8, p. 273).

The Magwood family adopted their own nomenclature for the two Miles Plantations, which were generally north and east of Thomas Middleton's lands. The former Woodford, sold by Lambert Lance to Miles in 1800, was called Lance. The tract to its north was known as Miles. A plat made in 1837 (at Charleston County RMC Deed Book S10, p. 273: Figure 14) shows the Miles tract being planted in both cotton and rice.

In his will of 1835 (Charleston County Will Book 40, p. 475) Simon Magwood distributed his large estate, including wharves and houses in Charleston, among his several children. His lands and slaves in St. Andrews Parish were to be divided equally between sons James H. and Simon John Magwood, except that Simon would receive "the house and furniture." In the partition of land made in 1837, James was awarded the Miles tract, with 200 acres added to it from the north part of the Lance tract (Woodford). Simon Magwood Jr.'s portion was the Lance tract (except 200 acres), which evidently included their father's house, the Holman tract (to its east), Fuller's tract, and Lynah's tract. Simon then bought from James a 66-acre portion of the Miles tract (Charleston County RMC Deed Book S10, p. 237). The Lance/Miles/Magwood lands subsequently passed through the ownership of phosphate mining interests, and were added to tracts owned by the McLeod/Rhodes family in the twentieth century.

METHODS

Archaeological Field Methods

The initially proposed field techniques involved the placement of shovel tests at 100-foot intervals along transects placed at 100-foot intervals. Cut lines had been previously surveyed in, so these were used as the transects.

All soil would be screened through ¼-inch mesh, with each test numbered sequentially by transect. Each test would measure about 1 foot square and would normally be taken to a depth of at least 1.0 foot or until subsoil was encountered. All cultural remains would be collected, except for mortar and brick, which would be quantitatively noted in the field and discarded. Notes would be maintained for profiles at any sites encountered.

The information required for completion of South Carolina Institute of Archaeology and Anthropology revisit site forms would be collected and photographs would be taken, if warranted in the opinion of the field investigators.

For the tract, a total of 64 transects were set up at 100-foot intervals along the dirt roadway, which ran approximately east-west. Shovel tests worked north and south off the road at 100 foot intervals. A total of 726 shovel tests were performed in the survey area plus additional 25-foot shovel tests for the identified site.

The GPS positions were taken with a Garmin GPS 76 rover that tracks up to twelve satellites, each with a separate channel that is continuously being read. The benefit of parallel channel receivers is their improved sensitivity and ability to obtain and hold a satellite lock in difficult situations, such as in forests or urban environments where signal obstruction is a frequent problem. This was a vital concern for the study area.

GPS accuracy is generally affected by a number of sources of potential error, including errors with satellite clocks, multipathing, and selective availablity. Satellite clock errors can occur when the satellites' clock is off by as little as a millisecond, or when a slightly-askew orbit results in a distance error. Multipathing occurs when the signal bounces off trees, chain-link fences, or bodies of water. Multipathing was probably a significant source of error for this study because of the trees and the wetlands area. The source of most extreme GPS errors is selective availability (SA), the deliberate mistiming of satellite signals by the Department of Defense. This degradation results in horizontal errors of up to 100 m 95% of the time, although the error may be as much as 300 m. Nevertheless, selective availability has been turned off by the DOD. We have previously determined the 3D[1] and DGPS readings with the Garmin 76 were identical. Therefore, we relied on 3D navigation mode, with expected potential horizontal errors of 10 m or less.

Architectural Survey

As previously discussed, we elected to use a 0.5 mile area of potential effect (APE). The architectural survey would record buildings, sites, structures, and objects which appeared to have been constructed before 1950. Typical of such projects, this survey recorded only those which have retained "some measure of its historic integrity" (Vivian n.d.:5) and which were visible

[1]A basic requirement for GPS position accuracy is having a lock on at least four satellites, which places the receiver in 3D mode. This is critical B as an example, positions calculated with less than four satellites can have horizontal errors in excess of a mile, or over 1,600 m.

from public roads.

For each identified resource, we would complete a Statewide Survey Site form and at least two representative photographs were taken. Permanent control numbers would be assigned by the Survey Staff and the S.C. Department of Archives and History at the conclusion of the study. The Site Forms for the resources identified during this study would be submitted to the S.C. Department of Archives and History.

Figure 15. View of the dirt road running east-west through the tract.

Site Evaluation

Archaeological sites will be evaluated for further work based on the eligibility criteria for the National Register of Historic Places. Chicora Foundation only provides an opinion of National Register eligibility and the final determination is made by the lead federal agency, in consultation with the State Historic Preservation Officer at the South Carolina Department of Archives and History.

The criteria for eligibility to the National Register of Historic Places is described by 36CFR60.4, which states:

> the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and
>
> a. that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> b. that are associated with the lives of persons significant in our past; or
>
> c. that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> d. that have yielded, or may be likely to yield, information important in prehistory or history.

National Register Bulletin 36 (Townsend et al. 1993) provides an evaluative process that contains five steps for forming a clearly defined explicit rationale for either the site's eligibility or lack of eligibility. Briefly, these steps are:

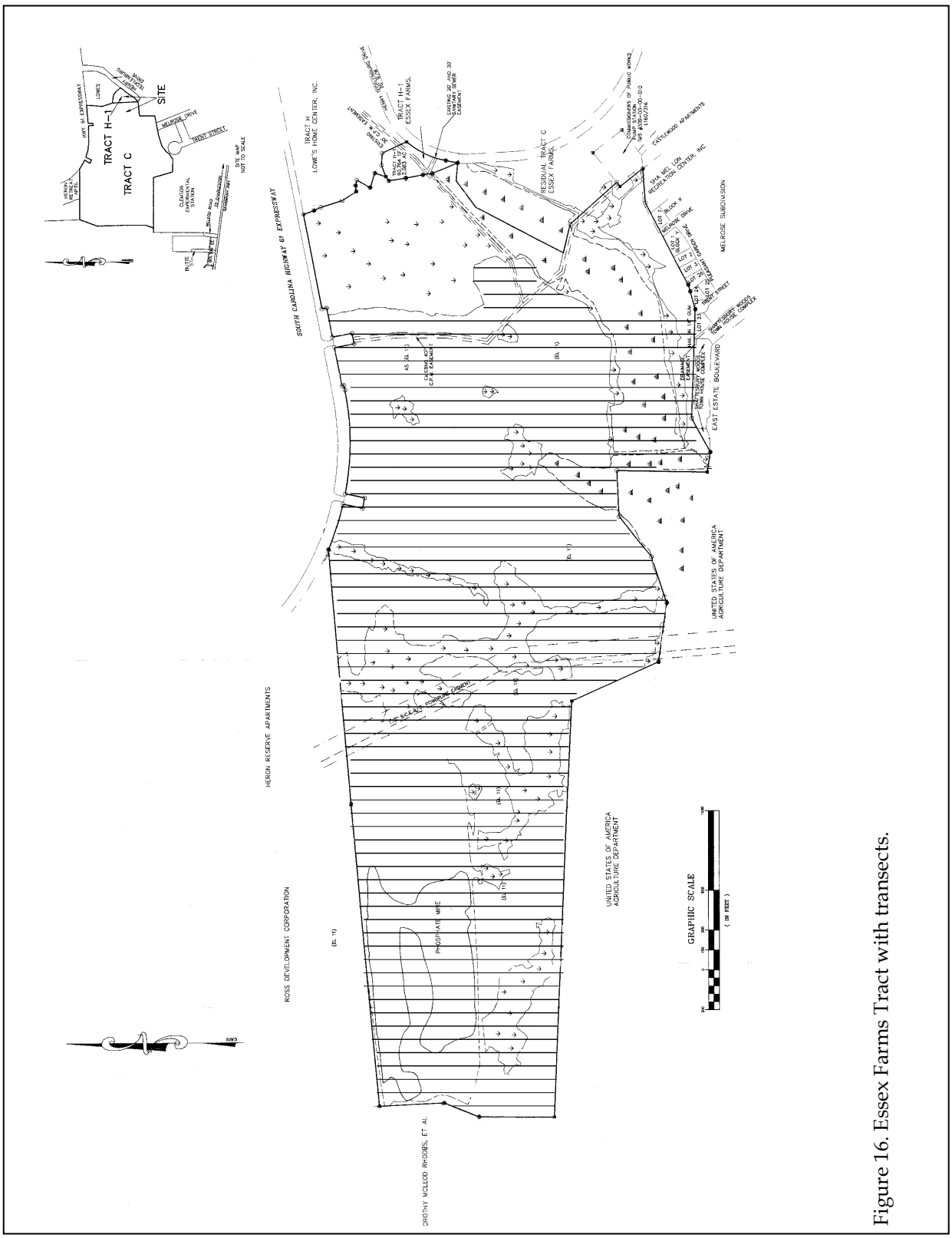

Figure 16. Essex Farms Tract with transects.

- identification of the site's data sets or categories of archaeological information such as ceramics, lithics, subsistence

  remains, architectural remains, or sub-surface features;

- identification of the historic context applicable to the site, providing a framework for the evaluative process;

- identification of the important research questions the site might be able to address, given the data sets and the context;

- evaluation of the site's archaeological integrity to ensure that the data sets were sufficiently well preserved to address the research questions; and

- identification of important research questions among all of those which might be asked and answered at the site.

This approach, of course, has been developed for use documenting eligibility of sites being actually nominated to the National Register of Historic Places where the evaluative process must stand alone, with relatively little reference to other documentation and where typically only one site is being considered. As a result, some aspects of the evaluative process have been summarized, but we have tried to focus on an archaeological site's ability to address significant research topics within the context of its available data sets.

Laboratory Analysis

The cleaning and analysis of artifacts was conducted in Columbia at the Chicora Foundation laboratories. These materials have been catalogued and accessioned for curation at the South Carolina Institute of Archaeology and Anthropology, the closest regional repository. A site form for the identified archaeological site has been filed with the South Carolina Institute of Archaeology and Anthropology. Field notes have been prepared for curation using archival standards and will be transferred to that agency as soon as the project is complete.

Analysis of the collections followed professionally accepted standard with a level of intensity suitable to the quantity and quality of the remains. In general, the temporal, cultural, and typological classifications of historic remains follow such authors as Price (1979) and South (1977).

RESULTS OF SURVEY

Introduction

As a result of this cultural resources survey one archaeological site (38CH2023) was recorded (Figure 17). The site is a sparse nineteenth to twentieth century scatter that is recommended not eligible for the National Register for its inability to address significant research questions and lack of integrity.

The architectural survey did not identify any structures or other resources beyond those identified by the 1992 survey, none of which were in the project APE (Fick 1992).

Archaeological Resource

38CH2023

Site 38CH2023 (Figure 18) consists of a subsurface scatter of late nineteenth to early twentieth century artifacts. It is situated on level topography next to saltwater marsh at an elevation of about 7 feet AMSL.

The site is situated in an area of 10-15 year old mixed pines and hardwoods. The area appears to be damaged by logging and a sewer line runs adjacent to the site.

Shovel tests were performed at the initially proposed 100-foot intervals with Transect 63, Shovel Test 4 (100R100) positive. Additional shovel testing was performed at 25-foot intervals along the cardinal directions until two consecutive negative shovel tests were encountered. A total of 14 shovel tests were excavated with 2 positive (14%).

According to the Charleston County soil survey (Miller 1971), the site area should produce somewhat poorly drained Edisto soils that have an Ap horizon of very dark grayish brown (10YR3/2) loamy fine sand to a depth of 0.9 foot over a pale brown (10YR6/3) loamy fine sand to just over a foot. However, the shovel tests at the site produced an A horizon of light brownish gray (10YR6/2) sand to 0.7 foot over a light yellowish brown (10YR6/4) sand to 1.0 foot in depth, typical of disturbed soils.

As previously mentioned, the site is a late nineteenth to early twentieth century scatter. A total of five artifacts were collected from the two shovel tests. Test 100R100 had four pieces of manganese glass and test 75R100 had a suspender buckle.

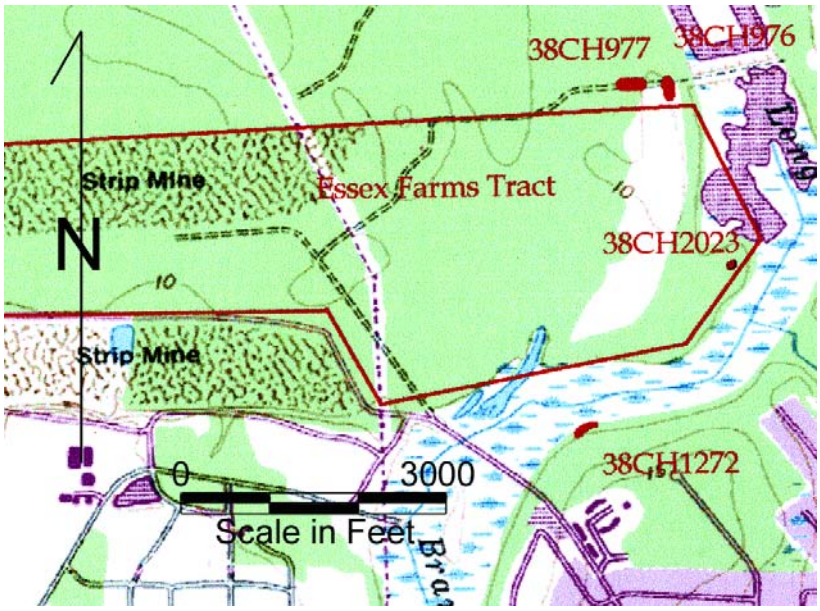

Figure 17. Topographic map showing the identified site (38CH2023).

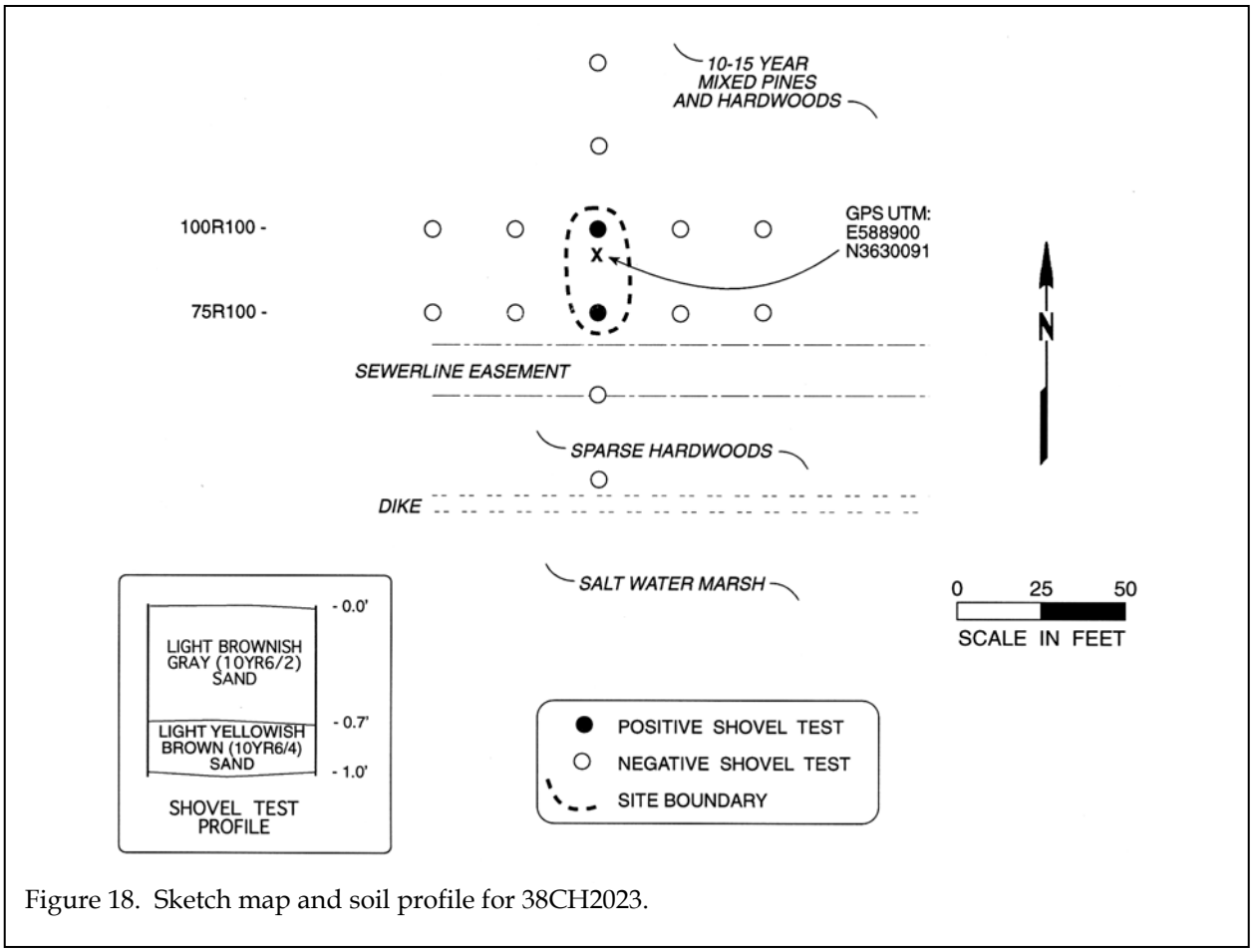

Figure 18. Sketch map and soil profile for 38CH2023.

An estimated site dimension is 25 feet east-west by 25 feet north-south. The central UTM coordinate is 588900E 3630091N (NAD27 datum).

The manganese glass can be dated from the nineteenth century into the twentieth century (Jones and Sullivan 1985:13). The suspender buckle appears to be from the same time period given the material (iron) and the degree of corrosion.

While a number of research questions could be derived for the turn-of-the-century, such as diet and status, this time period is largely neglected, especially around Charleston where large, more elaborate plantations are in abundance. Nevertheless, this site lacks the density and quality of remains to be able to address significant research questions. The remains are dated to the same time period when phosphate mining was occurring on the tract, so it may be likely that the site is a result of this post-Civil War era industrial activities.

Consequently, due to the poor integrity from logging and inability to address significant research questions, we recommend this site as not eligible for inclusion on the National Register of Historic Places and recommend no additional management activities, pending the review and concurrence of the State Historic Preservation Office.

Architectural Resources

There are two previously recorded National Register listed Batteries (38CH1272 and

Figure 19. Shovel testing in the site area.

38CH1678) in the 0.5 mile APE. These sites, Battery Magwood and Long Branch Creek Battery, cannot be seen from the current survey tract, being separated by Long Branch Creek. In addition, Battery Magwood (38CH1678) has already been heavily impacted by construction of Lowe's and Henry Tecklenburg Drive, which are adjacent to the property. The current undertaking will have no additional affects on the Civil War batteries.

No historic properties noted in the 1992 Charleston Survey (Fick 1992) were found in the project APE. A drive of the surrounding roads verified the findings.

CONCLUSIONS

This study involved the examination of a tract of approximately 325 acres in Charleston County be used for a neighborhood of single family homes. This work, conducted for Mr. Gordon Geer of Centex Homes examined archaeological sites and cultural resources found in the proposed project area and is intended to assist Centex Homes in complying with their historic preservation responsibilities.

As a result of this investigation, one archaeological site, 38CH2023**,** was identified and assessed. The site is a sparse nineteenth to twentieth century scatter and is recommended not eligible for the National Register for lack of integrity and inability to address significant research questions.

A survey of public roads within 0.5 mile confirmed the findings of the 1992 county-wide survey (Fick 1992). No structures were found in the project APE. The two National Register batteries cannot be seen from the project area and will not be impacted by the current undertaking.

It is possible that archaeological remains may be encountered during construction activities. As always, contractors should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the State Historic Preservation Office, or Chicora Foundation (the process of dealing with late discoveries is discussed in 36CFR800.13(b)(3)). No further land altering activities should take place in the vicinity of these discoveries until they have been examined by an archaeologist and, if necessary, have been processed according to 36CFR800.13(b)(3).

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